

JUNE 1926

NO. 245

Monthly

A Reference for Buyers

HITCHCOCK'S
**MACHINE
TOOL
BLUE BOOK**

25,000

Controlled Circulation

Published By

HITCHCOCK PUBLISHING CO.

508 So. DEARBORN ST.
CHICAGO



Reliance Motors in installations of one to over 2000 have been giving dependable service in metal-working plants for over 20 years.

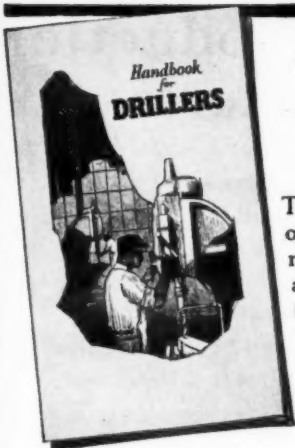
Reliance Electric & Engineering Co.
1050 Ivanhoe Road, Cleveland, Ohio

Branches:

Boston	New York	Philadelphia	Pittsburgh
Cincinnati	Detroit	Chicago	Birmingham, Ala.

We specialize in motors, sizes 1/2 to 250 h. p. constant and adjustable speed D. C.; squirrel cage and slip ring A. C.

RELIANCE ^{AC}_{DC} MOTORS



The A-B-C of Good Drilling Practice!

Thousands of copies of this booklet are mailed out annually all over the world, to men and boys interested in knowing the "why" as well as the "how" of twist drills and drilling.

May we send you a copy? It costs you nothing but a postcard and puts you under no obligation.

Just ask for the "Handbook for Drillers."

The **CLEVELAND** TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES **TWIST DRILL COMPANY**
CLEVELAND
NEW YORK · CHICAGO · LONDON

Manufacturers, also, of

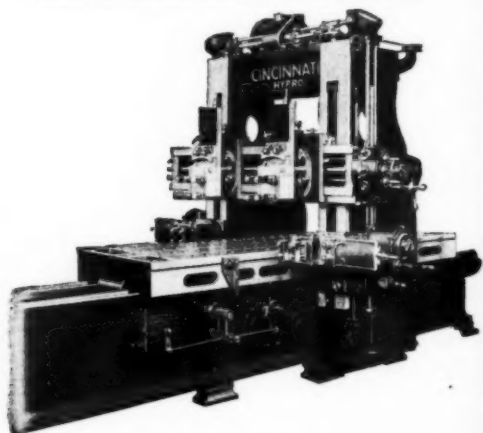
Carbon and High Speed Drills for every purpose; "Mezzo" Super-Carbon Drills; Hand, Jobbers' and Shell Reamers; "Peerless" High Speed Reamers; "Paradox" Adjustable Reamers; "Quick-Set" Reamers; Chucking Reamers for Turret Lathes; Counter-bores; Countersinks; Sockets; End Mills; and the "Ezy-Out" Screw Extractors.

CLE◆FORGE

TRADE MARK REG. U.S. PAT. OFF.

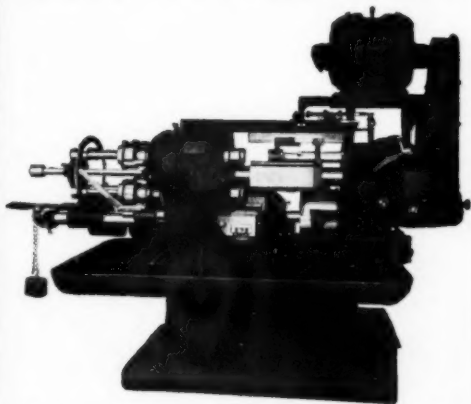
High Production Features

Selective Dial Feed
Rail Clamping Device
Instantaneous Rail Lift
Rapid Power Traverse
Forced Lubrication
Combination Steel
Herring Bone and Spur Gear Drive
Long Inverted Dovetail Down-Slide



The Cincinnati Planer Co.
Cincinnati, Ohio

It Pays to Know What the Gridley Can Do



Many are the concerns, using parts from bar stock, that have saved thousands of dollars a year through investing a few thousands in Model G Gridley Multiple Spindle Automatic Screw Machines.

We are not asking you to buy. We want you only to find out definitely what the Gridley can do for you. Send B/P or Samples of your bar stock parts for definite production figures—no obligation whatsoever.

Write Dept. C. S.

The National Acme Co.
Cleveland, Ohio

New York

Detroit

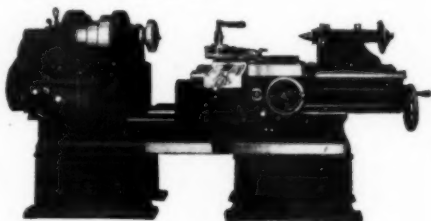
Chicago

The Ideal Lathe

FOR

Railroad or Jobbing Shops

Here is a lathe that is always ready for practically every job, without tearing down and setting up, and it is a real lathe on all of them. It is so sturdy in construction that it absorbs the vibration of the heaviest cuts.



RAHN-LARMON

18"/36" Extension Bed Gap Lathe

There is nothing else quite so satisfactory as the Rahn-Larmon Extension Gap where there is a variety of lathe work to be done.

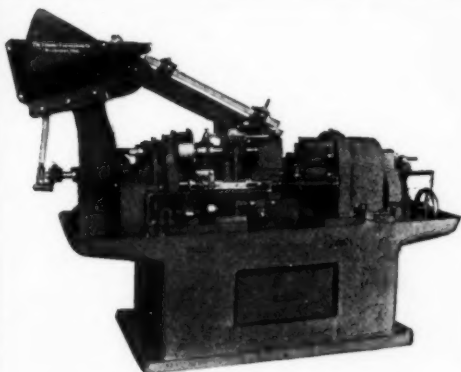
It reduces to a minimum the amount of equipment required, saving in investment cost; it saves in operating time, reducing labor cost; and there's hardly a reasonable limit to the work you can call upon it to do.

Made in sizes 18"/36", 22"/40" and 28"/50" for belt or a. c. or d. c. motor drive.

Let's compare notes. This may be just what you need. If not, there's no harm done.

The Rahn-Larmon Co.

CINCINNATI, OHIO, U. S. A.



"This is Production"

**2800 Pointed and Threaded
1/2" Bolts Per Hour—
One Operator!**

WHEN USING

**Four Economy Automatic Combined
Pointing and Threading Machines.**

**Capacity 1/4"x1" to 3/4"x5 1/2"
Bolt and Cap Screws.**

**The Economy Engineering Company
WILLOUGHBY, OHIO**

LeBLOND Patent Belt Shifter



A necessary safety factor and a valuable production increasing feature. It is applicable to any cone pulley driven machine tool.

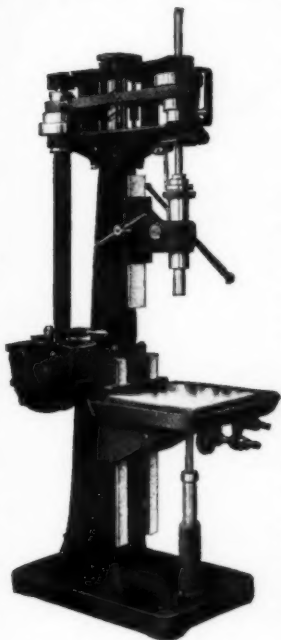
Write for our descriptive booklet and prices

**THE R. K. LeBLOND MACHINE
TOOL COMPANY**

CINCINNATI

OHIO

You Can Rely on Every Fosdick to Keep Production Up—Costs Down



Uprights

21" to 30", cap. 3/16" to 3".

Ball Bearing Sensitive

13" to 24", 1 to 6 spindle, capacity to 1 1/4".

Radials

All Geared, high speed to heavy duty, 2 to 6 ft., cap. 3/16" to 4" drills.

Balanced Arm, motor driven, 4 to 6 ft.

High Speed Sensitive, 3, 3 1/2 and 4 ft., for drilling and tapping, capacity to 1".

Pictured

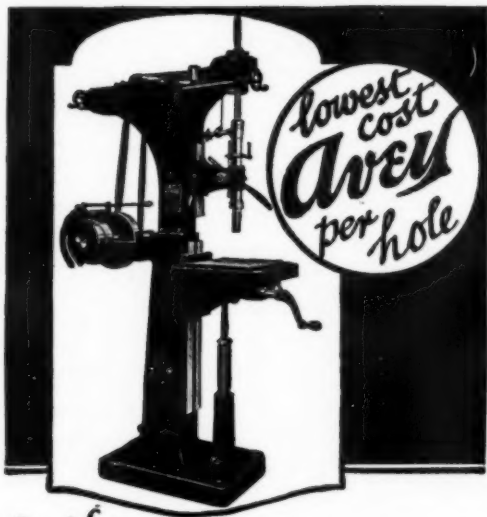
to the left is our 16" High Speed Sensitive. It's an ahead-of-date machine in which we take a great deal of pride, and as an owner you would take a great deal of satisfaction.

In design all our line is well in advance of general practice, and meets the modern demand for speed, accuracy and lasting dependability.

You are sure to find something of interest in our illustrated Catalog—write for a copy today

The Fosdick Machine Tool Co.

1638 Blue Rock St., Cincinnati, Ohio



**Send for
the new
book on
drilling!**



You will standardize upon the "lowest cost per hole" when you use Avey Drilling Machines.

Ball bearings throughout; high speed with low power consumption enable you to derive full benefit of high-speed drilling with low upkeep cost, rapid set-up of odd shapes and quick speed adjustments. Rate of cutting and great increase in "holes per grind" with Avey machines will surprise you.

The Avey Drilling Machine Co.
CINCINNATI, O.

Representatives in principal cities

FOOTBURT



A Single Spindle Footburt Sipp Sensitive Drill

**Made in three
sizes of single
and multiple
spindle models**

More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

The Foote-Burt Company, Cleveland, O.

FOOTBURT



Threading at 3000 R. P. M.

These rods are being threaded with a No. 8-32 thread 5-16" long, at an average production of 1400 pieces per hour on our Standard High Speed Tapping Machine.

How about your threaded work?

Leland-Gifford Co.
Worcester, Mass., U. S. A.

BRANCH OFFICES:

Boston
Cleveland

Chicago
Detroit

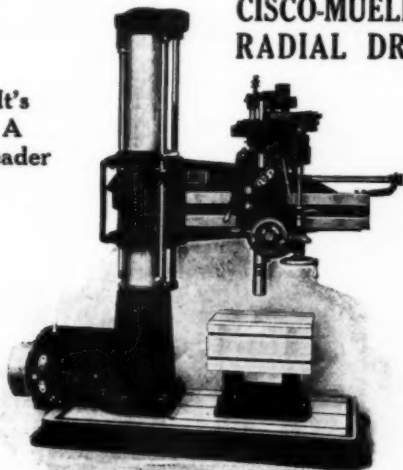
New York
Rochester



The Cisco Machine Tool Co. has recently purchased the Mueller Machine Tool Co., and will continue to make their well known line of Radial Drills and furnish repairs

CISCO-MUELLER RADIAL DRILL

It's
A
Leader



THE CISCO-MUELLER Heavy Duty Radial is a tool of great accuracy and all-around efficiency. Its patented stationary column; its combination positive and friction feed; its effective, yet simple control; its combination low and high speed reverse for backing out taps — these are only some of the features that have made it so deservedly popular. If you want a *good* radial, at a price you can afford to pay, let us quote you on a CISCO-MUELLER.

The Cisco Machine Tool Co.
1700 Elmore Street, Cincinnati, Ohio

Ettco

New All Hardened Drill Chuck



To keep pace with the demands for Increased Production and Lower Maintenance Costs, Ettco Drill Chucks are now being made with All Hardened Steel Parts. They are stronger and better.

1. *Lighter in Weight.*
2. *All Hardened Parts.*
3. *Keyless.*
4. *Hand Operated.*
5. *Ball Bearing.*
6. *Continuous Grip.*
7. *Simple Construction.*

Seven good reasons for using the new Ettco.

Cash in on your old Drill Chucks. Send them to us and we will allow 15% on the exchange from the following list prices:

No. 1A	Ettco— 0 to $\frac{1}{4}$ in.....	\$ 5.50
No. 2	Ettco— 0 to $\frac{3}{8}$ in.....	6.50
No. 3A	Ettco— 0 to $\frac{1}{2}$ in.....	9.00
No. 3½A	Ettco— $\frac{1}{8}$ to $\frac{5}{8}$ in.....	11.00

Ettco Chucks increase the value of electric drills

Eastern Tube & Tool Company
600 Johnson Ave., Brooklyn, N. Y.

Let AIR do it—!!

Increase your Tapping 100 to 300%
Used in many big motor plants of U. S.

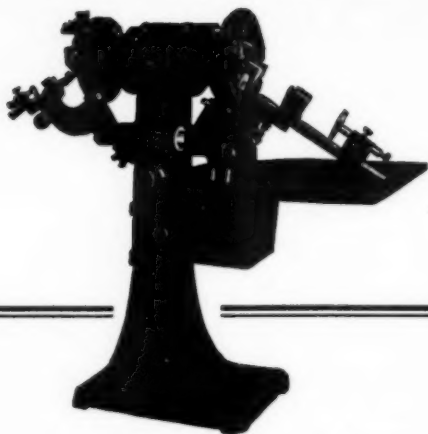
Makes new Tapping
records everywhere

This machine
automatically
carries out the
principle of
hand tapping.

High Speed
Pneumatic
Oscillating
Tapping
Machine

We make
guaranteed
production
estimates.

W. GATERMAN MFG. CO., Manitowoc, Wis., U.S.A.



Style C-6-A, Direct Motor Driven
Grand Rapids Drill Grinder

This is a self-contained unit, with the motor built in as an integral part of the machine, eliminating all overhead work.

Like all Grand Rapids Drill Grinders, this machine is scientifically designed to give equal lengths and correct angles to cutting lips, with proper clearance, etc., so that every drill may give capacity output.

The use of Grand Rapids Drill Grinders insures the maximum number of accurate holes drilled per day or per dollar of cost. That, combined with our "Safety First" features, is the "hole" question.

Write for your copy of our Drill Grinder Book

Gallmeyer & Livingston Co.
342 Straight Ave., S. W., Grand Rapids, Mich.

Cutter and Tool Grinders

For All Classes of Work

No. 12
Cutter and Tool
Grinder



The Nos. 10, 11 and 12 give a range of sizes that will take care of any kind of cutter and tool work as well as light cylindrical grinding.

Let us recommend the proper sizes for your work

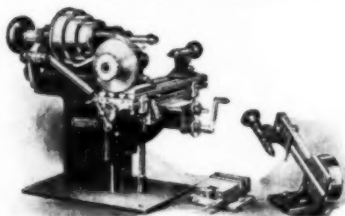
LANDIS TOOL COMPANY
Waynesboro, Pa.

New York Office: 30 Church Street Detroit Office: 5928 Second Blvd.
Chicago Office: 618 W. Washington Blvd.

HARDINGE

Milling Economy!

With All Conveniences and a Wide
Range of Feeds, This Miller Affords
You Real Savings

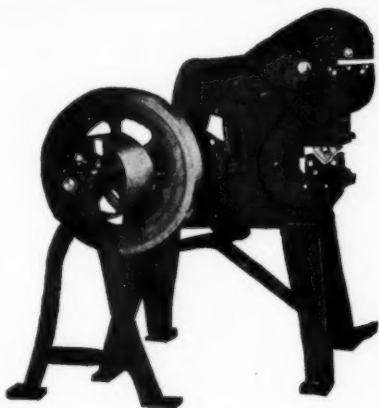


Cataract Bench Milling Machine

Many years of practical experience taught the designers and builders of this Bench Miller just what ought to go into a machine of this sort. You will find it unusually useful, doing its work with precision accuracy, and having available a wide range of feeds for practically all jobs that come within its range.

*Complete data and the interesting
price gladly sent you on request*

Hardinge Bros. Inc.
4149 Ravenswood Ave.
Chicago, Ill.



No. 52—Built in Seven Sizes
BELOIT
Combined Power Punches and Shears
Series 51 to 56

The Beloit Combined Power Punches and Shears offer an unequalled combination of simplicity of design, construction, range of capacity, and moderate initial cost.

Invaluable in any plant for punching, shearing and fabricating steel bars or structurals.

An indispensable equipment for the manufacture of automobile springs and bumpers.

Tell us about your Punching and Shearing requirements. Our line is extensive, and we have a Beloit Machine for your work.

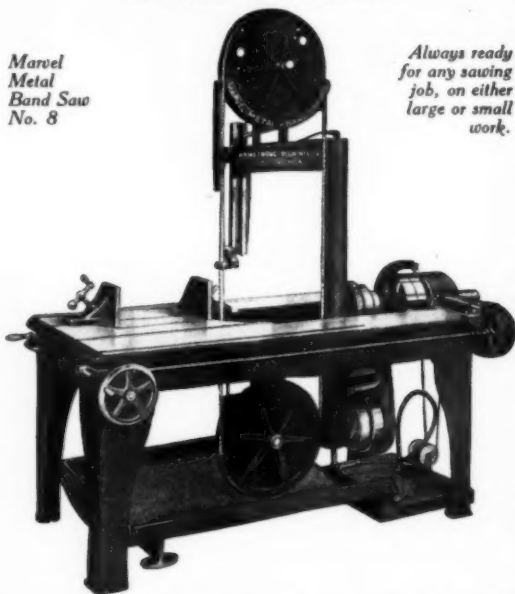
Send for our new catalogue No. 11 which describes the Beloit line of Punches, Shears and Bending Rolls.

Hendley & Whittemore Co.
100 S. State St., -:- -:- **BELOIT, WIS.**

The Marvel Metal Band Saw Takes the Lead

*Marvel
Metal
Band Saw
No. 8*

*Always ready
for any sawing
job, on either
large or small
work.*



UNIVERSAL in its adaptation to every variety of metal sawing. It saws bars, beams, channels, tubes, etc., rapidly and accurately, and does the finest tool room work. Saws at an angle either way without swinging the bar around the shop. Has big capacity up to 18 in. The large bed gives lots of room for material and tools. A saw for every need.

Write for Circular or the Complete Catalog of MARVEL Saws

Armstrong-Blum Mfg. Co.
341 N. Francisco Ave., CHICAGO, ILL.



Nothing Better For Light Shaping and Slotting

7 in.
Shaper
Stroke



3½ in.
Slotter
Stroke

The Rhodes Shaper and Slotter

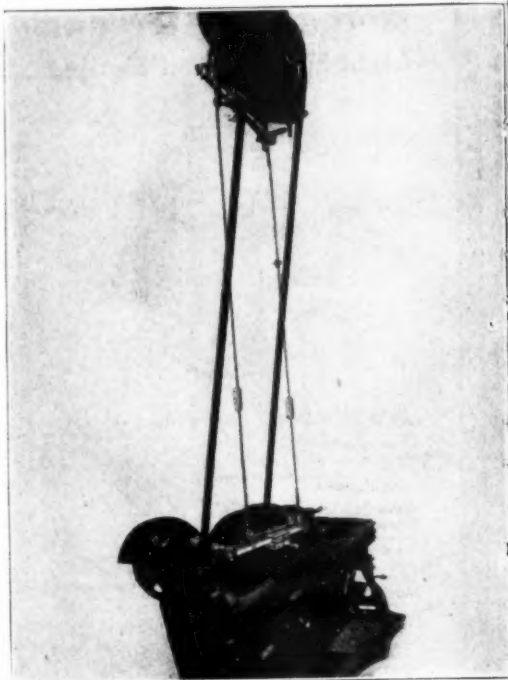
Accuracy is insured by the use of templets, gauges and jigs; by hand scraping and fitting; by proper adjustments for taking up wear, and by careful testing.

Convenience is another "Rhodes" attribute. Equipped with every modern feature for quick manipulation and a wide range of usefulness, it is unexcelled on die, tool and model making, keyseating, and all light shaping and slotting. And the price, of course, is less than that of larger machines of similar quality.

*Ask your dealer or write for
CATALOG H22*

The Rhodes Mfg. Company
984 Park Road, :-: Hartford, Conn.

SHAPERS—RHODES—SLOTTERS



REZNOR QUICK-ACTING SAFETY BELT SHIFTER
as applied to a Lathe



For forty years a mark of excellent product

Nero Fiddled While Rome Burned!

Are YOU fiddling with petty economies while the belts on your lathes and other cone pulley machines are still shifted by hand or by hit-and-miss devices?

The REZNOR QUICK ACTING SAFETY BELT SHIFTER is an indispensable equipment on such machines in the progressively managed plant. The gain in productive time is such that you cannot afford to delay a single day in learning what you are now losing annually—and what you can save. Prove it by 30 days' trial on an important lathe!

THE REZNOR

QUICK-ACTING SAFETY BELT SHIFTER

is today in use in many Nationally prominent plants. It is fast and efficient. It is dependable and durable. It is safe, positive and cannot damage belt. It will pay for itself many times in your plant. It requires no other guard on a lathe in the State of Pennsylvania.

WRITE US TODAY for descriptive circular
and our 30 DAY TRIAL proposition

REZNOR MFG. CO., Mercer, Pa.

Spring Press

(UNIFORM BLOW)

Foot or Power

Single and Double Action

These new dependable Presses
are used in large numbers by
manufacturers of—

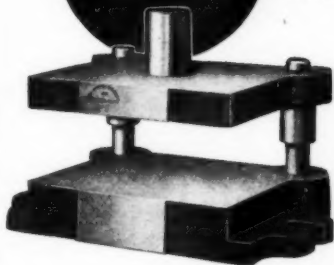
**Electric Devices, Toys,
Jewelry, Clocks, Cutlery,
Hardware, Radio Sets,
Instruments, Etc.**

The Uniform Blow is a very
special feature—it increases pro-
duction and eliminates costly in-
spection. Investigate.

The Taylor & Fenn Co.
Hartford, Connecticut, U. S. A.

***Dies
cannot
shear***

*There's a Danly
Die Set for every
need—12 types
and 97 sizes, com-
pletely assembled
or in the "knock
down."*



**with
Danly
Die
Sets**

Punch holder and die shoe of semi-steel make Danly Die Sets practically unbreakable. Leader pins and bushings without "perceptible shake" and with lubricated "glass-hard" wearing surfaces assure accuracy at all times—eliminating shearing of dies and assuring accurate stampings.

This is only one of the many refinements of Danly Die Sets. Protect your dies and save 20-50% in first cost.

**Write, wire or 'phone nearest warehouse
for 34-page catalogue.**

Danly Machine Specialties, Inc.

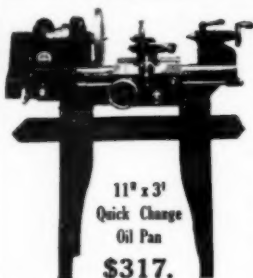
4913 Lincoln Ave., CHICAGO

**Detroit, Mich.
1537 Temple Ave.**



**Long Island City, N. Y.
35 Wilbur Ave.**

Monarch Jr. Lathes



11" x 3'
Quick Change
Oil Pan
\$317.

are the smallest members of the Monarch lathe family. Yet they are the "biggest little lathes" built.

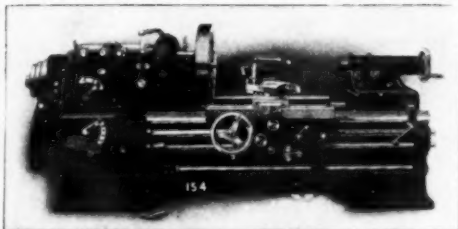
The Monarch line of lathes includes all sizes and types from the little 9-inch Junior lathe to the big, massive 30-in. lathe. In this line there is a lathe to fill your requirements at the price you want to pay.

Send for Catalog

The Monarch Machine Tool Co.

206 Oak Street, Sidney, Ohio

CINCINNATI LATHES



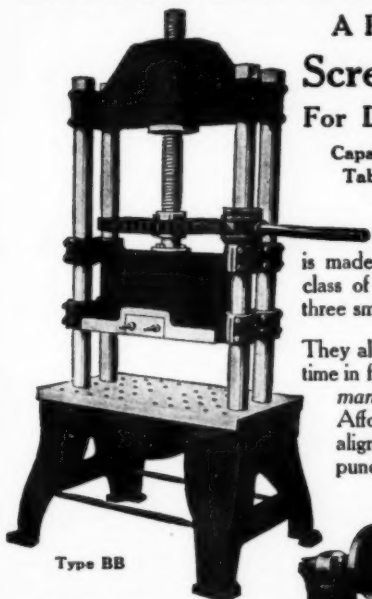
are furnished either Cone Type or Geared Head, sizes 16" to 30" inclusive. Our single pulley belt drive lathes can be converted over to motor drive any time after installation. If you want longest guaranteed service and a lathe that covers every practical requirements always most conveniently, our latest catalog and prices will interest you.

THE CINCINNATI LATHE & TOOL CO.
3207-3211 North St., Oakley, Cincinnati, O.

Two Real Cost Reducers—

A Four-Post Screw Press For Die Makers

Capacity, 80 tons
Table, 20"x36"



Type BB

This extremely rigid press is made for a heavier class of work than our three smaller sizes.

They all save hours of time in fitting dies. *One man does the work.* Affords perfect alignment between punch and die.

And the other—a Surface Grinder

Powerful—rigid—accurate—no vibration—no noise—a revelation in quiet efficiency. Graduated feeds.

Details and prices for a postal

**JARECKI MACHINE
AND TOOL CO.**

Successor to Manhattan Machine & Tool Works
Dept. A. GRAND RAPIDS, MICH.



Sent on trial



The Cincinnati

Portable Electrics
Stay on the job.

Hand and Screw Feed Drills $\frac{1}{4}$ " to $2\frac{1}{2}$ " cap.
Portable Scotch Radial Drills $1\frac{1}{4}$ " to 2" cap.
Tool-Post Grinders..... $\frac{1}{4}$ to 3 H. P.
Bench and Pedestal Grinders..... $\frac{1}{4}$ to 5 H. P.
Hand and Suspended Grinders. $\frac{1}{4}$ to 3 H. P.
Polishing and Buffing Lathes. $\frac{1}{2}$ to $7\frac{1}{2}$ H. P.

Write for Catalog

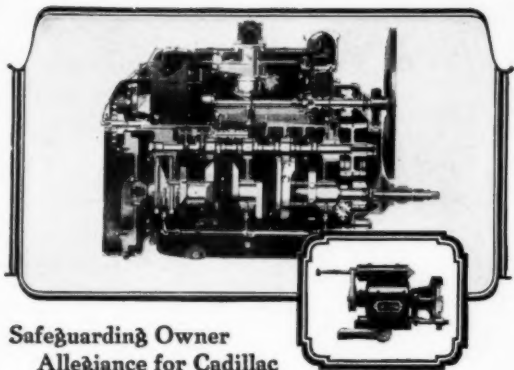
The
Cincinnati Electrical Tool Co.
2678 Madison Road
Cincinnati, Ohio



For grinding and polishing metal, wood, fibre, etc., this Belt Grinder quickly secures flat surfaces, straight sharp edges and saves hand filing. Motor driven from lamp socket. Two sizes.

Ask about its novel features.

PORTER-CABLE MACHINE CO., Salina St., SYRACUSE, N.Y.



Safeguarding Owner Allegiance for Cadillac

CADILLAC'S endorsement by those it serves is a precious thing. So Cadillac's production is necessarily safeguarded by the most exacting standards. That Dumore grinders are to be found among the precision tools directly responsible for the famed close limits of Cadillac production is a splendid endorsement of their worth.

Unlike Cadillac, perhaps, your requirements do not call for limits as close as .0001. Nevertheless, if you make jigs, dies, gages and other hardened tools, you can use Dumore grinders to advantage. Six styles and sizes—with individual speed ranges—provide a grinder with the correct cutting speed for any grinding need. Dynamic balance and smooth operation of Dumore grinder motors eliminate vibration. Ability to operate on alternating or direct current assures constant usage even in shops supplied with two varieties of power current. Portable, they can easily be taken to the job—saving the cost of tearing down expensive set-ups.

A word to us will bring further facts that show why these sturdy tools are so desirable to own. Why not send for this data and our new catalog today?

Wisconsin Electric Co., 43 Sixteenth St., Racine, Wis.

DUMORE HIGH SPEED GRINDERS

"D & W" Demagnetizers



Simple and Dependable

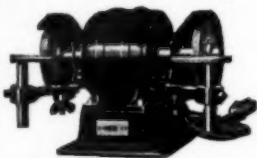
Built in two separate types, for use on alternating or direct current



Their construction is unique. A rigid continuous "U" shaped core made of the highest grade laminated electrical steel is energized by two stationary coils, thru which alternating current is passed. Construction is similar for d. c. machine, only in addition it contains a small converter. *Write for the circular.*

J. & H. Electric Co., 161 Clifford St., Providence, R. I.

Make It Easy For your workmen to keep their tools sharp



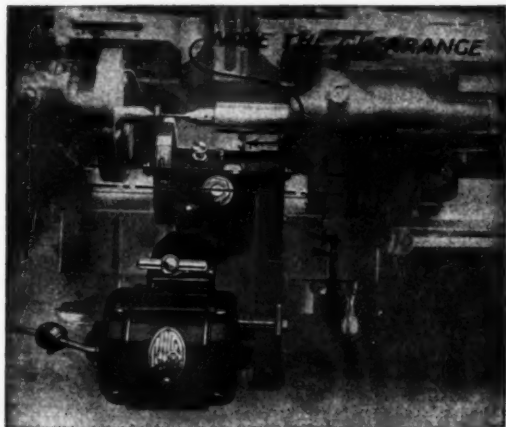
A BODINE Portable Electric TOOL GRINDER

—placed in every department of your plant is a big aid in keeping production at its maximum.

"BODINES" are highly specialized machines for putting the keenest cutting edge on tools in the shortest time. When placed in handy locations throughout the plant, it always results in sharper tools and better production.

"BODINES" are equipped with "SKF" ball bearings, heavy wheel guards, tool rests adjustable to any position, an ideal oiling system, etc., etc. Write for a copy of "*Eight Outstanding Advantages.*"

The Bodine Electric Company
2256 West Ohio St., Chicago, Ill.



The Smallest Piece can be Ground Between Centers

The most Flexible **Precision Grinder** And it's Portable
For Internal and External Grinding

It has the sturdy construction to meet every demand, yet is light enough to be portable and usable on the various machine tools in your plant.

Built on a precision basis, it is particularly valuable where the allowable limits are held inside of tens of thousandths of an inch.

Those who are using this highly developed grinder, find it a most valuable addition to their tool room or machine shop equipment.

Write for our Booklet, which describes many new features and illustrates several operations in internal, external and surface grinding.

Manufactured by

J. E. GILBERT GRINDER CO.

214-16-18 Greenbush St., _____ MILWAUKEE, WIS.

SERVICE TOOL DIE & MFG. CO.

2256-58 W. Walnut St., _____ CHICAGO, ILLINOIS

Distributors for—ILLINOIS, OHIO, INDIANA, MICHIGAN

Improved Thompson Universal Grinder

Self-contained and motor driven, this standard Grinder combines efficient means for the rapid and accurate production of every grinding operation required in a machine shop.

Capacity 10"x36"

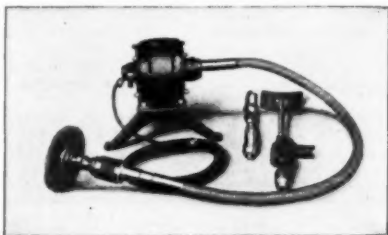
*Illustrated
folder gives
you full details*

**The Thompson
Grinder Co.**
Springfield, Ohio



The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy grinding or polishing job



Send for our latest bulletin

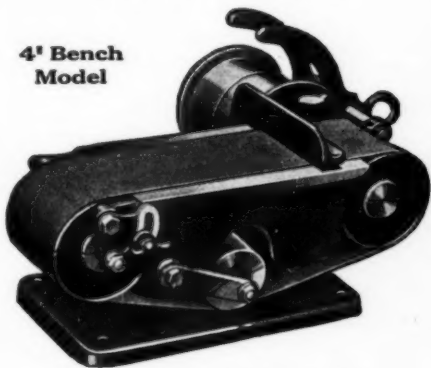
Stow Flexible Shaft Co., 3454 Ludlow St.,
Philadelphia, Pa.

The Best Since 1876

PEERLESS SURFACING MACHINES

for
**Grinding and Finishing
Flat Work**

**4' Bench
Model**



**Larger Machines in Both
Horizontal and Vertical Styles**

SEND FOR FOLDER

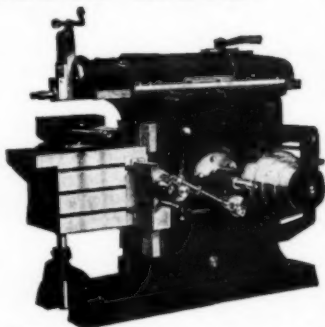
PEERLESS SURFACING MACHINE CO., Inc.
TROY, N. Y.

SHAPERS

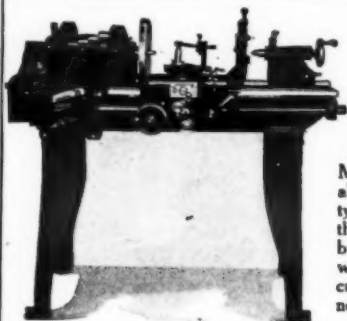
12", 14", 16"
Plain Crank,
16", 20", 25"
B. G. Crank,
either Cone
Driven or
through Speed
Box.

Belt Shifter
Regular Equip-
ment All Cone
Driven Shapers.

32" Back Gear-
ed Crank, Sin-
gle Pulley
Drive.



The Smith & Mills Co., Cincinnati, O., U.S.A.



Another Sidney Lathe

Our 11" x 4'
Medium Pattern,
all geared head
type. It is up to
the minute with
built-in features
which insure ac-
curacy and eco-
nomical service.

Write for catalog and prices on the complete
line of Sidney Lathes. Address Dept. 1801

The Sidney Machine Tool Co.
Sidney, Ohio



Our Pipe Benders Meet The Demand



Ever since their invention our hand Pipe Benders have had a steady sale and have given universal satisfaction.

Recently, we have made some improved attachments that permit of a wider range of work and open up a new field in the kind of bending the machine will accomplish.

If you do pipe bending you will find our machine an economical, simple and very efficient appliance in reducing costs and doing better work. For 2" and under.

We have a Bulletin waiting for you. Send for it now

Pedrick Tool & Machine Co.

3644 N. Lawrence St., Philadelphia, Pa.

Manufacturers of Cylinder Boring Bars, Portable Millers,
Crank Pin Turning Machines, etc.

IN PLACES

WHERE OTHER KEYSEATING MACHINES CAN'T REACH

This miller is a valuable tool, especially on some of the troublesome jobs of keyseating. It pays to have one only for that tiresome old job. Your bothersome work can then be done in the drill press.

Why wait any longer to get Catalog O?

National Machine Tool Co.

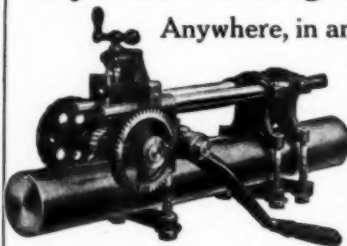
2268 Spring Grove Ave.,

Cincinnati, O.



Keyseats Shafting In Place

Anywhere, in any position



**The BURR
Portable
Keyseater**

Cuts accurate keyways up to 12" long anywhere in any position, in shafts up to 5" diameter.

DON'T WAIT until you need it, when you would gladly pay 10 times its cost to have one—**ORDER NOW.**

Over 9,000 in use. Will you be the next to play safe?

JOHN T. BURR & SON

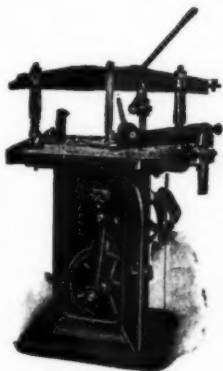
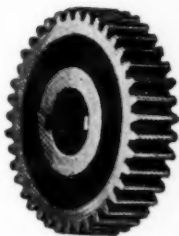
422 Kent Ave., Brooklyn, N. Y.

You Need a "Davis"

No matter whether you
have just a few or many

Keyways

like this
to cut—



No. 1 Keyseater

—you need a "DAVIS"
for such work, because
it will give you the same
satisfactory service it
gives users everywhere.

Nothing better for cut-
ting keyways in pulleys,
gear blanks, bell cranks,
crank handles, etc., and
for oil grooving and sim-
ilar work.

Made in two sizes—

No. 1, Cap. $\frac{1}{8}$ to 1 in.

No. 2, Cap. $\frac{1}{2}$ to $\frac{3}{4}$ in.

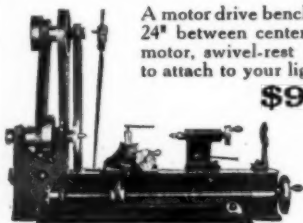
*Write for complete illustrated description,
including interesting table of cutting time*

Davis Keyseater Company

255½ Mill St., Rochester, N. Y., U. S. A.

Just-Rite Lathes

Made in Sizes from 10-in. to 20-in.



A motor drive bench lathe, 10" swing, 24" between centers, complete with motor, swivel-rest and pan, ready to attach to your light socket.

\$98

JUST-RITE
for turning,
boring, mill-
ing and drill-
ing (not screw
cutting).

Order one by express. Weight, 230 lbs.

A. V. Carroll Machine Tool Co., Norwood,
Cincinnati, O.

Cleveland Open Side Planers

26' to 72'

High production at minimum cost. Simplicity of construction makes ease of operation.

Over 1060 installations.

Send for descriptive circular

Single Turn Rail
Clamp; Automatic
Trip to Rail Raising
Mechanism; Improved
Head Clamp, Self Oil-
ing Bearings throughout
Drive; Rapid Power
Traverse; Box Tables.



The Cleveland Planer Co.,

3148 Superior Avenue,
CLEVELAND, OHIO

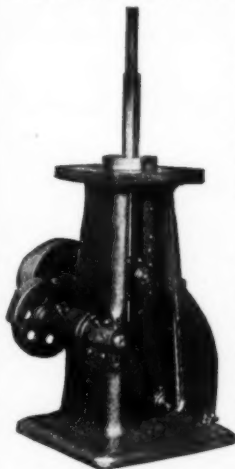
Established in 1900

Simplicity—

Keynote of the Catlin Keyseater

With less than half the number of parts of other keyseaters, Catlins are proportionately simpler machines to operate. Any average mechanic can produce top-notch results with a Catlin.

They have been found thoroly successful in automobile plants, government shops, navy yards and many big factories, both at home and abroad.



The machine shown here takes care of the needs of most machine shops. The stroke is adjustable up to 13", and it cuts keyseats from 1/16" to 1 1/2". Our other sizes will do all the keyseating that may come up in any shop or ship yard.

Economy

On some classes of work it is possible to keyseat piece after piece without clamping down the work, or stopping the machine.

Catlins are making new records right along—why not have them save time and money in your shop?

Let us mail you the interesting folder, describing the various sizes, including their capacities

Chattanooga Machinery Company

2401 Bennett Ave., Chattanooga, Tenn.

Wasting Oil Is Costly—

Use a CURTIS!



Most of your cutting oil is taken away on chips, and unless reclaimed, it is a total loss. A Curtis will save about 90% of this oil, thereby stopping a costly leak.

The Curtis is made with capacity for all requirements, belt or motor drive. The illustration shows our No. 400, with a capacity of 20 bushels per hour.

One man runs two, easily turning out 40 bushels per hour.

A Curtis always pays big dividends. Write us today for complete data and prices.

The Leon J. Barrett Company
Grafton St., Worcester, Mass.



TOLHURST Chip
Wringers reclaim
6 to 15 gallons per
load and handle
three or four
loads an hour.

Write!

Tolhurst Machine Works
Troy, New York

Easy Precision Readings

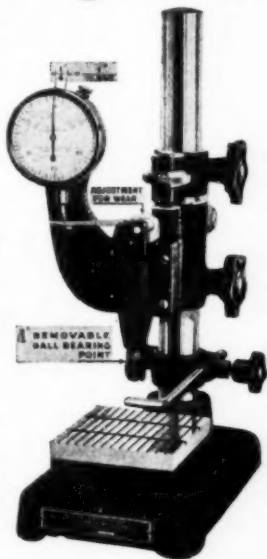
The New 1926 Model Active Comparator

Accuracy can no longer be a point of conjecture when you use the new 1926 model "Active Comparator." It can be used in either the shop or inspection department.

The large indicating dial relieves eye strain and at the same time shows how much the work is off and which way. The operator can test more rapidly and with less fatigue because he can use both hands.

The sensitive parts are not subjected to any inaccuracies, caused by expanding from the heat of the hand, as they need never be touched in the process of inspection.

We will gladly send you complete information concerning this precision instrument and the many attachments that make it adaptable to a great variety of work.



The Active Machine & Tool Co.

1221 West 6th Street, Cleveland, Ohio

FEDERAL



PRECISION DIAL INDICATORS

for
every conceivable
measurement

Send for bulletin

FEDERAL PRODUCTS CORP.
PROVIDENCE, R.I.

Speed — Uniformity — Finish In Riveting



Speed: One rivet per second.

Uniformity: Each rivet headed with same degree of tightness or looseness as desired.

Finish: Perfectly formed, highly polished heads—no hammer or tool marks.

Grant Noiseless

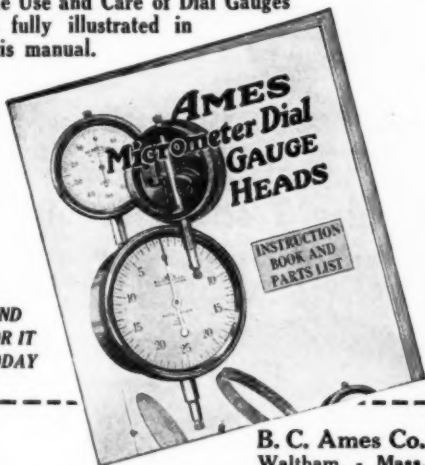
Rotary Rivet Spinners are the only machines built which will accomplish the above, and they may be operated by cheap help.

*Ask for Catalog, showing several styles
Also send samples of work for riveting*

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.

Send for This FREE Text Book

the Use and Care of Dial Gauges
is fully illustrated in
this manual.



**SEND
FOR IT
TODAY**

**B. C. Ames Co.
Waltham, - Mass.**

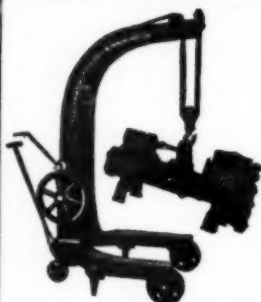
**Please send me a free copy of the
DIAL GAUGE INSTRUCTION BOOK**

NAME.....

ADDRESS.....

H 6.....

Makes Old and New Cranes Safe!



Canton New Safety Friction Load Brake

Furnished at small extra cost on all "Canton" Portable Cranes, Hoists and Trucks, and easily applied to those already in service.

This Brake holds the load at any point, making it impossible for the load to get away, and insuring safety to both operator and work.

"CANTON" CRANES are made in several sizes. Write for Booklet E-8.

CANTON FOUNDRY & MACHINE CO., Canton, Ohio

New York Office: 203 East 15th Street, Second Floor

Towsley Trucks PAY 500%

**—Every Year On
Their Cost Price!**



Glad to tell
you how

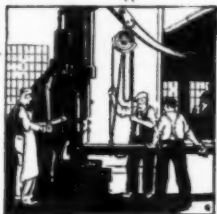
TOWSLEY TRUCKS

repay their
cost every
two to three
months.

Every style
for every
need.

Write for facts and figures—you'll be glad you did

**John T. Towsley Mfg. Co., Cincinnati,
Ohio**



*Think of this
when buying
chain hoists*



Tribloc $\frac{1}{4}$ to 2 tons

PROVIDING Triblocs for handling loads accomplishes two worthwhile objectives—it speeds up the work of highly paid mechanics and promotes a better spirit of cooperation among the men—both of which show tangible results on the work sheet.

Large industrial plants, railroads and public utilities do not purchase Tribloc Chain Hoists merely because they have a "well-groomed" appearance—it is their performance under the shocks and strains of shop work that has won the recognition of these buyers.

We shall be glad to tell you how and why some type of Ford Hoist can pay its way in your shop. Ask for Catalog 7-B.

FORD CHAIN BLOCK CO.

2nd and Diamond Streets,
Philadelphia, Pa.

*We also manufacture
"THE MOTORBLOC"
an electrically driven chain hoist*

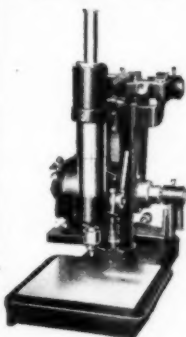


MACHINE Shops can get along without tools like expanding mandrels and high speed drills, but they get out work much faster with them. Write us about mandrels.

W. H. Nicholson & Co., 117 Oregon St., Wilkes-Barre, Pa.

Sigourney Sensitive Drills

The Quality Tools That Reduce Costs



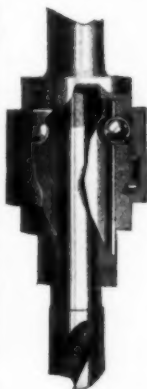
SIGOURNEY DRILLS are designed for those who realize that the best tools pay the largest returns on the investment.

Made with one to four spindles, plain or ball bearing, belt or motor drive. *All parts interchangeable.*

The illustration shows our motor-driven, all-ball-bearing No. 0 High Speed-Bench Drill, which may be operated up to 10,000 R. P. M.

*Full data and prices
sent you on request.*

Sigourney Tool Co.
Hartford, Conn., U. S. A.



TITAN QUICK CHANGE CHUCK

Its driving ability, quick change and safety features we believe make the "Titan" the nearest to **drill chuck perfection** ever designed.

Simply strike end of drill, and it is removed from collet with speed and safety, without key, hammer or special device. A one-armed man can do it.

The broken tang collet gives a positive drive to drills with broken tangs.

Sizes No. 0 to No. 5 for any taper shank drill, counterbore, reamer, etc. Let us help you save some money.

Write for descriptive price list

Titan Tool Company
Erie, Penna.

Thor

Electric Drills —

**Save Much Time,
Labor and Money**



YOU will find THOR Portable Electric Drills used in hundreds of lines of manufacture, in close quarters and in hard-to-get-at places. But they are profitable everywhere.

THOR Drills are built of easy running, rugged parts that insure durability and economy. They are all equipped with a ground wire for safety—shocks are impossible! Jacobs Chucks, ball and roller bearings, double-silk wound coils, and other high grade parts are standard equipment.

Get a copy of our new, illustrated catalog. It pictures and describes the complete THOR Line. Write for it today.

Independent Pneumatic Tool Co.
600 W. Jackson Blvd., Chicago, Ill.

14" Sensitive Drill

Accurate—Convenient

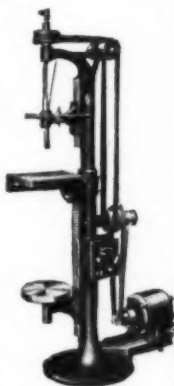
You will find the U. S. a reliable, rigid tool for the rapid and economical drilling of holes $\frac{1}{2}$ " and smaller.

**Price with motor,
switch and belts - \$115**

**Or with Counter-
shaft for Belt Drive \$70**

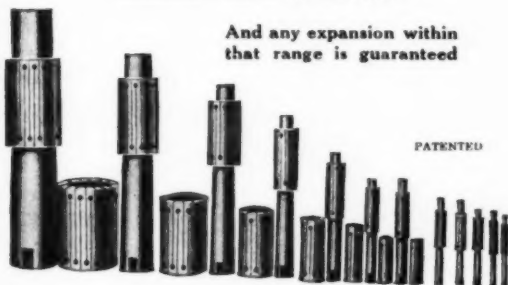
Built in a machine tool shop, according to the best engineering practices. Steel spindle, ground to size, with ball thrust bearing; vertical adjustment to head; tables for long and short work; three speeds. Further details upon request.

The U. S. Machine Tool Co.
1952 W. 6th St., Cincinnati, Ohio



JUST 1 SET OF 12 Champion Expanding Mandrels

Will fill by thousandths any inside
diameter from $\frac{1}{2}$ " to $6\frac{1}{2}$ "



And any expansion within
that range is guaranteed

So Simple—only two parts.

So Handy—always ready for any job.

So Efficient—dependable for precision accuracy.

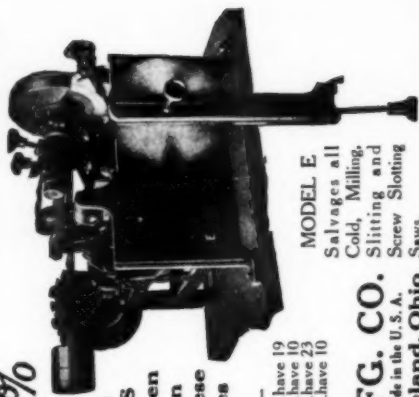
They are suitable for all classes of work, large or small, in all kinds of metal. They hold work of any length of bore and do not chatter. They are lighter, more easily handled, and keep truer than common mandrels. They release work easily. And the grinding of all parts after hardening insures the greatest accuracy. The cost is only about one-fifth that of solid arbors of equal range graduated by sixteenths.

Our Catalog also describes

Champion Tool Holders, Champion Emery Wheel Dressers, Machinists' Vises and Clamps, etc., and our large line of practical, hard-to-beat Shop Furniture. Copy upon request.

The Western Tool & Mfg. Co.
SPRINGFIELD, OHIO

REDUCE SAW COSTS 90%



IT
COSTS
5 CENTS
To Sharpen
a Saw on
one of these
Machines

MODEL J
Resharpen all
soft or medium
tempered Circu-
lar Saws.

THAT'S WHY—

American Brass	have 19
American Hard Rubber	have 10
Continental Fibre	have 23
Formica Insulator	have 10

MODEL E
Salvages all
Cold, Milling,
Slitting and
Screw Slotting
Saws.

THE WARDWELL MFG. CO.

Specialty Manufacturers of the largest line of Saw Filers made in the U. S. A.
108 Hamilton Ave.,
Cleveland, Ohio

**USE the CHICAGO No. 2
POWER PIPE THREADING MACHINE**



For
**Production
and Precision
Threading**

PORTABLE

Capacity:
 $\frac{1}{4}$ " to 2" Pipe
 $\frac{1}{2}$ " to 1 $\frac{1}{2}$ " Bolt

Featuring:

1. Quick Die Change
2. Automatic Die Head
3. Three Speeds
4. Perfected Oil Control

Send for Catalog

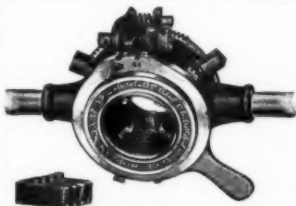
**Chicago Pipethread
Machine Co.**

Office and Factory: 1623 Racine St., Racine, Wis.

A Positive Quick-Acting Lock

For Adjustable Quickly-Opened Dies

Instead of Clamps, Levers, Screws or Nuts that must be strained
or pounded to make them hold threading dies in position.



Dies adjust for variations and
open quickly for removal.

That is one great
difference between
the "DUPLEX"
DIE STOCK for
pipe and others of
the same type; but
there are several
more points of dif-
ference and value.

THE HART MFG. CO., 2319 E. 20th St., CLEVELAND, O.

Over 100 Shapes and Sizes of
Armstrong Tool Holders

SAVE h. s. Steel, 90%; Grinding, 70%; Forging, 100%



STRAIGHT SHANK TURNING TOOL



We also make—all of Armstrong quality—

Ratchet Drills
 Drilling Posts
 Drill Drifts
 Drill Vises

Lathe Dogs
 Clamps
 Wrenches
 Planer Jacks

Bolt Drivers
 Tool Posts
 Drill Sleeves
 and Sockets

Glad to mail you the Catalogs; write for them

Armstrong Bros. Tool Co.

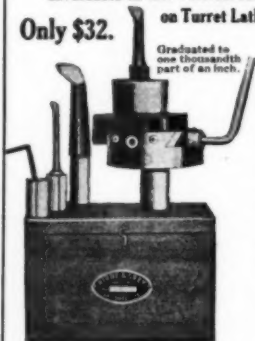
"THE TOOL HOLDER PEOPLE"

308 N. Francisco Ave., Chicago

R & G Adjustable Boring Tool

Invaluable in the Tool Room and on Production Work
 on Turret Lathes, Horizontal Mills, Etc.

Only \$32.



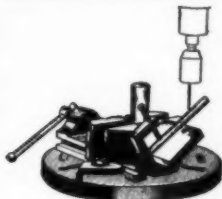
It saves time and insures accuracy in boring jig plates, dies, etc., on milling machine table and drill press, that cannot be handled on the lathe. It readily trues to size holes drilled on turret lathe.

Instantly adaptable to universal chucks. Straight or taper shank holders easily fitted for mounting to any machine spindle.

Send us your order or write for complete description of this handy, time-saving outfit.

Ribbe & Grey
 La Porte, Ind.

The G-S Combination Vise



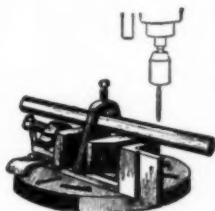
Shaft held on the angle plate for drilling holes at any degree. Also short shaft held in the V in vise. This converts Vise to a handy jig for duplicate parts.



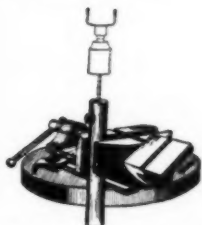
Without a proper vise more time is lost in setting up many jobs than to do the machining.

Any practical machinist can quickly see the many advantages of the G-S Combination Vise.

Order one on 30 days' trial.



Work is held in V's with the aid of special clamp—quick to set up and remove—no blocks, straps or bolts are necessary.



Long shaft can be held in the overhanging jaws. Here the V serves as a jig for centering shafts, etc.

3

Tools for the Cost of

1

WISE, V-BLOCKS AND ANGLE PLATE

The most practical Vise for
general Machine Shop use

A GREAT TIME AND LABOR SAVER

For holding work on Drill Press,
Milling Machine, Shaper or Planer.

PATENTED

No. 1	Dimensions	No. 2
5-in.	Jaws Open.....	7-in.
2½-in.	Depth of Jaws.....	3-in.
8-in.	Width of Jaws.....	9½-in.
1½-in.	Jaws Overhang.....	2-in.
65-lbs.	Weight.....	165-lbs.

PRICES

\$35.00	Complete Vise.....	\$50.00
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F. O. B. Factory

GERMANOW-SIMON MACHINE CO.
547 West Ave., Rochester, N. Y.



IDEAL Electric Automatic Air Compressor and Exhaust Pump

The single cylinder pump delivers two cubic feet of free air at 300 R. P. M. Quarter H. P. motor required for 200 lbs. pressure.

Price, pump only, \$22.50

← SINGLE CYLINDER

TWIN CYLINDER →

The twin cylinder pump delivers four cubic feet of free air at 300 R. P. M. Half H. P. motor required for 200 lbs. pressure.

Price, pump only, \$32.50

Our Pumps are used for Spray Guns, Glass Blowing and general commercial and laboratory blowing and suction purposes.

PETRICK BROTHERS
2226 Belmont Ave., Chicago, Ill.



The "GUSHER"

*The Last Word in Machine
Tool Coolant Pumps—*

Of highest efficiency, requires the least power, and stands the wear and tear of modern shops almost indefinitely.

"GUSHERS" are ball bearing, have no gears, no foot or relief valves, no packing nuts, need no priming, and are not injured by grit or small chips.

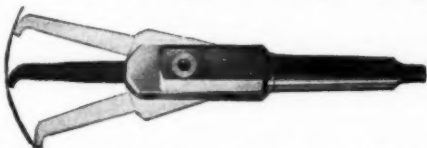
Capacities, 3 to 30 gallons per minute. Furnished with individual motors for any current, also for belt drive.

Get the Catalog and prices

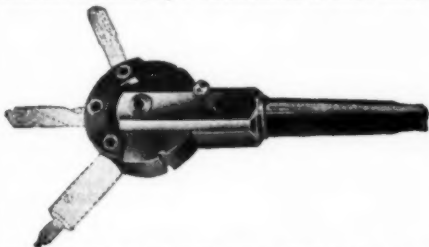
The Ruthman Mch. Co.
528-534 E. Front St.
CINCINNATI, OHIO

SAVES

Time, Temper and Money



IT COSTS LESS TO USE AN E-Z SET BORING TOOL. Tool for production work on Milling Machine, Boring Mill, Drill Press, Screw Machine or Lathe. Large boring capacity. Rigid, positive adjustment, actuated by a worm; made in three sizes.



WITH THE M-P THREE TOOL TURRET you can convert your bench lathe, engine lathe or speed lathe into a screw machine, or, you may need an auxiliary turret in your screw machine.

Send for a circular

We want live wire mechanical salesmen.

Manufactured by

The Maxwell Products Co.

Ottawa & Indiana Ave.,

Cleveland, Ohio

E-Z THREAD DIAL

This device on your lathes will lower the cost of, and increase the efficiency of, thread cutting.

Can be attached to all size lathes.

E-Z to install.

E-Z to use.



Eliminates stopping or reversing the lathe.

Saves cost of backing belt.

Saves power to drive same.

Fast growing in popularity.

A large corporation ordered nine at one time. Another five.

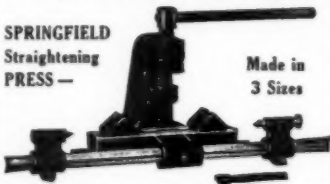
Sent on thirty days' trial.

Send for folder today.

JAMES M. COLVEN, 20 Wolffe Street, Yonkers, N. Y.

"The Acme of Convenience"

**SPRINGFIELD
Straightening
PRESS —**



Made in
3 Sizes

Invaluable in the tool room, also for straightening crank and cam shafts and other automobile parts.

A GREAT LABOR SAVER, as you will find the arrangement of this Press makes it the *acme of convenience*.

Any work within the range of centers may be tested and straightened without unnecessary walking from press to lathe each time in straightening rough or finished work. Any length, however, may be operated upon. Of "Springfield quality" thruout.

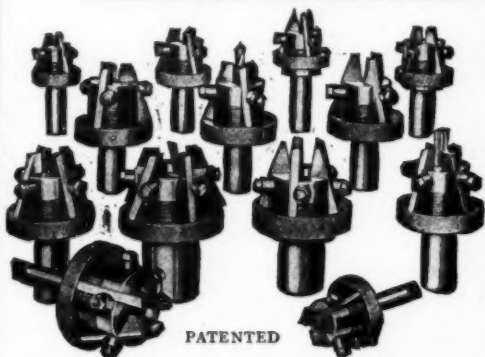
Write for folder illustrating many of its uses

The Springfield Machine Tool Co., Springfield OHIO

We also manufacture Engine Lathes and Shapers

Saves Your Buying

Many New Tools



Genesee Adjustable Hollow Mill—has adjustable, replaceable blades, which can be replaced at small cost, and this saves you buying many a new tool. They are ideal for finishing forgings, castings, etc. You can adjust them to the 1000th of an inch in a few minutes, and are designed to utilize machines to their full capacity.

Genesees can be fitted with drills and reamers, have formed blades, etc. Blades can be ground any angle to point work and turn short tapers. They cut up to 15" a minute in steel, are stronger than solid tools, and cannot change in size.

Seven sizes cover work from $\frac{1}{8}$ " to 2". The Genesee is now made in six different styles, from the heavy roughing Style "B" to the accurate finishing Style "F." We also make Style "N" Mills for all Brown & Sharpe Automatics. Write us about your needs—our tools reduce costs.

Genesee Manufacturing Co., Inc.

Established 1908

Rochester, N. Y., U. S. A.

Manufacturers of Genesee Rapid Production Tools

**How would
you like—**

to tap small holes as easily as you drill them; to tap them 2 or 3 times faster than usual; to wear out the small taps you are now breaking?

The Ettco High Speed Tapping Attachment usually increases output 100%. When a Gun Tap is used the increase is as high as 300%.

*Try one for 10 days—
if you can then spare
it, send it back.*

Ettco

**Try one
for 10
days**



Eastern Tube & Tool Co.
600 Johnson Ave., Brooklyn, N. Y.

No. 2 ALTO Motor Driven Three Speed **Tapping Machine**

SAVES—time.
SAVES—taps.
**SAVES—in the first
cost and in the long
run.**

Its main points are—

Motor driven, 3 speed,
double speed reverse,
quick change, back
geared multiple disc
clutch. Sensitive for
small tapping and power-
ful enough to drive
 $\frac{3}{8}$ " taps through steel.

We also make smaller
high speed tappers.

*Write for
descriptive literature
and attractive prices*



**The Alto Mfg. Co., 1647-51 Wolfram St.
Chicago, Ill.**



Drills to the center of a 10" circle.

Capacity, $\frac{3}{8}$ " diameter.

Up and down run of spindle, $2\frac{1}{2}$ ".

Up and down run of table, 7".

\$44.00

110 volt, 60 cycle, single phase.

Other voltages on application.

**Ready for the
Job**

Another Original Canedy-Otto Feature

That of first offering an electric bench drill completely equipped and ready for the job, the improved design eliminating the use of all gears and placing the cone pulley in exact alignment, enabling the belt to be run at its maximum speed. It also eliminates all twists and turns of the belt, meaning both a saving of belts and time, giving a greater speed of spindle, a feature of great advantage when using drill for small diameter.

Regular equipment consists of vertical type ball-bearing motor, toggle type switch, extension cord, socket, belting and chuck.

Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois

New York Branch
407 Broome St.

**Complete stock
carried at branches**

San Francisco Branch
955 Folsom St.



Several Holes— At Cost of One

A U. S. Multiple Spindle Drill Head transforms your single-spindle drill into a multiple spindle.

You can drill two or more holes with the same speeds and feeds you use for drilling one.

Patented double adjustment permits drilling in any pattern. Special heads to order, with adjustable or fixed spindles.

Let us help you reduce your drilling costs

The United States Drill Head Co., 1952 W. Sixth St., CINCINNATI, O.
Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

“Bridgebilt” Factory Seating and Tool Racks

A diversified line to meet requirements of every branch of industry.

**The Bridgebilt line
will give long and
satisfactory service**

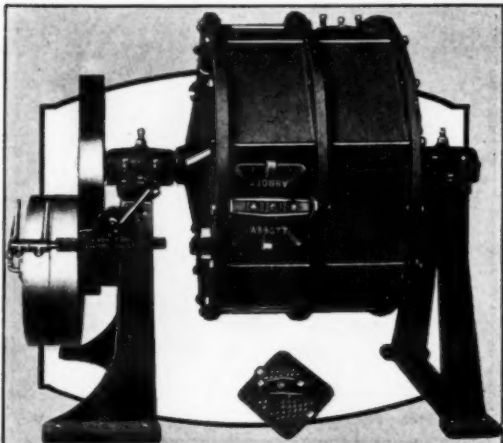
*For illustrated price list
and discounts write—*

**The Chicago Wire
Chair Co.**

619 No. LaSalle St., Chicago, Ill.

No. 1010-SWS





Increasing Profits by Reducing Finishing Costs

will likely cause you less embarrassment than raising your prices. One man, operating a burnishing barrel, can average finishing eight times as much work as an expert hand operator, and do it better. The Abbott Method is used by practically all leading manufacturers. It will pay you to investigate its efficiency and economy. Send us samples; we'll burnish and make complete report without obligating you in any way.

The Abbott Ball Company
"Originators of Commercial Ball Burnishing"
1043 New Britain Ave., Hartford, Conn.

Whitney ^{Ball Bearing} Punch No. 40

Made of 45 50 point O. H. Steel, drop forged. Very rigid—no springing in operation. Now provided with movable handle, to meet user's needs.

Capacity $\frac{5}{8}$ " thru $\frac{5}{16}$ " iron

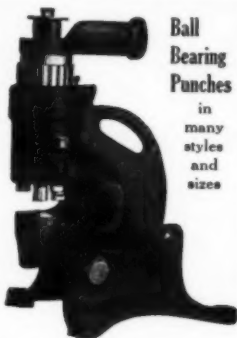
Depth of throat, 3"

Height of throat, 2"

Weight complete, 67 lbs.

The elimination of friction insures more work at less cost in all Whitney Punches.

Write for Catalog and Price List



Ball
Bearing
Punches
in
many
styles
and
sizes

Whitney Metal Tool Co.

95 Forbes Street,

Rockford, Ill.



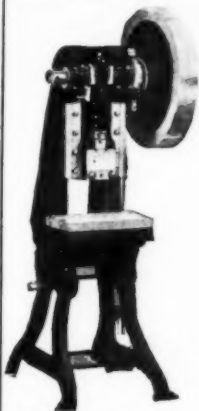
We've Made Punches Over 35 Years

Anyone who has made punches for over 35 years knows how, and T. H. L. Punches are as good as we know how to make them. As a result they give satisfactory, continuous and profitable service.

Send us a trial order and you'll come again. We carry a large stock of regular sizes for immediate delivery. Special sizes quickly made. Don't you need a few now? Let us hear from you.

T. H. Lewthwaite Machine Co.

311 East 47th St., (Est. 1890) New York City



Husky, Powerful

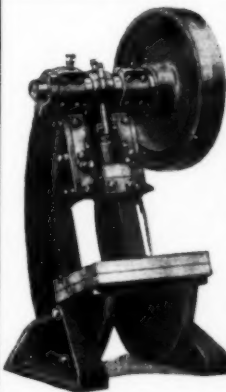
speedy Punch Presses
deliberately designed
for High Production
work.

All Types and Sizes

Write for Catalog

Rockford Iron Works

Rockford, Ill.



Trade **Verson** Mark

**"Lowest cost per
1000 Pieces"**

Verson Bench Presses are specially designed for a wide variety of light work—blanking, forming, bending, riveting, printing—to replace the heavier, bulkier, more costly presses. They will cut stamping costs, save floor space and lower power consumption. Verson No. 1, O. B. I. Bench Press, shown here, requires only 16x17 in. bench space; has 6-in. die space, weighs only 400 lb. and can be equipped with table and legs when desired. Equipped with Verson patented Saf-ty Clutch that positively prevents accidents due to repeating.

*Send for full details and prices.
Representatives in principal cities*

LaSalle Machine Wks.

3013 S. LaSalle St., Chicago, Ill.

Specializing in Small Presses and Angle Shears

Is Your Bar Stock Kept Handy?

It IS if Kept Piled in "The Handiest Racks"



It's a big economy to have your bar stock, pipe and shafting piled neatly right where it's needed, and in such a way that your men can "grab it quick."

Besides, when piled in "The Handiest Racks," you can know at a glance how much of the various sizes you have on hand.

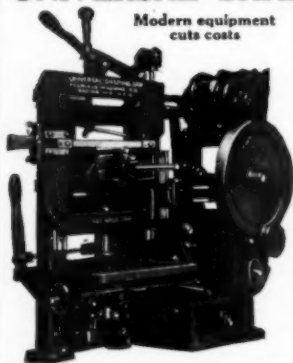
They save steps, save time, save delays. Glad to ship you a set on trial. Write to

Wm. S. Yohe Supply Co.

503 Mahoning Road, N. E.,

Canton, Ohio

—PEERLESS— UNIVERSAL SHAPING SAW



Modern equipment
cuts costs

Different Principles
Greater Efficiency
Give The Most Of—
Speed
Accuracy
Blade Economy

SIZES:

6"x6"--9"x9"--13"x13"

PEERLESS

HIGH SPEED HACK-SAWS

6"x6" 9"x9" 13"x16"

Sturdy--Efficient--Reliable

Peerless Machine Co.

1609 Racine St.

Racine, Wisconsin

Write for Details



DUST—

from

- Sand Blasts
- Emery Wheels
- Tumbling Mills
- Polishing Wheels

etc., etc., etc.,

—and including all kinds of heavy, flinty, gritty, grinding and cutting dust, is

Removed Most Efficiently

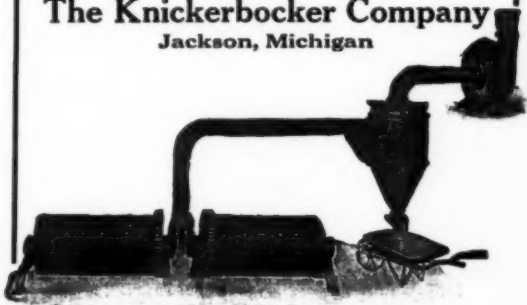
and economically with the old reliable "Rarefied" Dust Collector. Operated on the "rarefied" or partial vacuum principle, the air is drawn thru the Collector, and the dust is removed before the air reaches the fan.

The "Knickerbocker Way"

not only collects practically all of the dust, but it often uses 40% less power, and keeps repairs down to next to nothing. How's that for economy?

Let us send you a copy right now of our explanatory booklet, and a partial list of prominent, satisfied users.

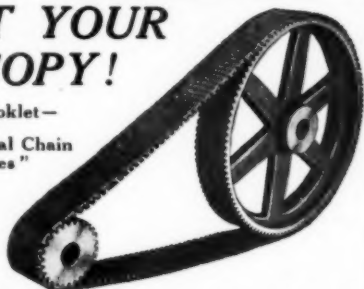
The Knickerbocker Company
Jackson, Michigan



GET YOUR COPY!

new booklet —
"Industrial Chain
Drives"

Write
today



BOSTON GEARS

BOSTON GEAR WORKS SALES CO.

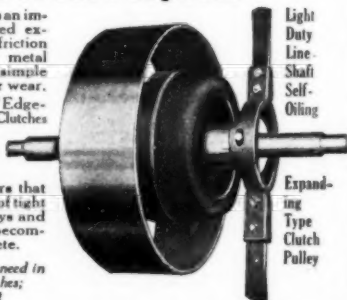
Norfolk Downs, Mass.

BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO

Edgemont Friction Clutches For All Purposes

This Clutch has an improved patented expanding type friction with metal to metal contact, with simple adjustments for wear. The value of "Edgemont" Friction Clutches on line shaft has been so universally acknowledged by mill operators that the old system of tight and loose pulleys and belt shifting is becoming quite obsolete.

*Tell us what you need in
Friction Clutches;
we have it*



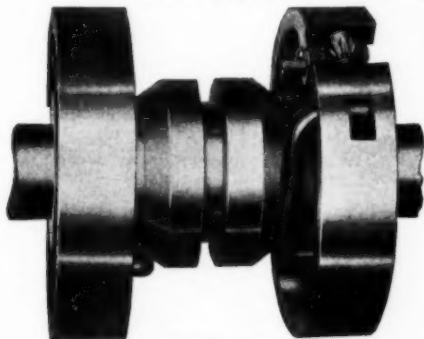
Light
Duty
Line
Shaft
Self-
Oiling

Expand-
ing
Type
Clutch
Pulley

Edgemont Machine Co., Inc., DAYTON, OHIO

The Sturdy CONWAY Combines

Convenient Compactness
And Dependable Strength



The Conway CMT Close Coupled Clutch

It's a type specially designed for cramped and crowded installations where the clearance is in fractions, and where transmission of power must be effected in a minimum amount of space. None of the standard Conway features is sacrificed in this design except the full length shaft bearing.

Applications of the close coupled type are usually of heavy duty character, where the clutch's ruggedness and capability for punishment are essential for the successful functioning of the operating machine.

The double type is pictured above; we also make the single type. We shall be glad to mail you prices, and to give you a list of the many kinds of machinery in which the *ever dependable* Conway Clutches have already made good.

Measures up to the severest requirements; what are yours?

WRITE FOR BULLETIN No. 26

The Conway Clutch Company

1951 Riverside, Cincinnati, Ohio



Jacobs
Chucks

Detroit Semi-Automatic 5-Spindle Drilling Machine

The particular province of this machine is the drilling of small holes in small pieces.

In its adaptation to this class of work, the Detroit Semi-Automatic is designed for precision, speed and quick handling. The material is handled with simple fixtures, in which the work is located without removing fixture or risking interference by the drill. The chips fall away automatically. The loading and unloading may be taken care of by women or girls, seated in front of machine. The fixtures for that purpose are simple and quick-acting, reducing loading time to a minimum. The reliability and usefulness of this machine is increased by the use of Jacobs Chucks as regular equipment.

For complete illustrated description, write to—

DETROIT MACHINE TOOL CO.,

65

*This advertisement is
in the interests of good Drilling
by the makers of the Jacobs*

Modern



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sed
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Capacities
0" to $\frac{3}{8}$ "
Drills

JACOBS
CHUCKS
are regular
equipment

6545 St. Antoine St., DETROIT, MICH.

ent is published in the
Drilling Equipment
the Jacobs Chuck

Modern equipment cuts costs



Winterhoff Portable Production Drills

No. 0 JUNIOR DRILL
10½" Swing, 0 to ¾" Capacity



\$55, F. O. B. Elkhart

Equipped with ¼ h. p. motor, two step cone pulley giving speeds of 1100 and 2300 r. p. m., horizontal drive gives full power to the 1¼" endless belt furnished with machine. Driven cone has bearing support at each end, all parts accurately machined and interchangeable. Positively the greatest value ever offered in a machine of this kind.

Drills, Grinders, Disc Grinders, Saws, Sanders. All motor driven.

Send for circulars describing these machines or see your Dealer.

Winterhoff Tool & Machine Co.

109 South Elkhart Ave.,

Elkhart, Ind., U. S. A.

The "Utility" Counterbore and Spot Facer Saves Time, Money

It has the Pilot that *cannot* twist off.

**Write
for
Catalog**



Eliminates

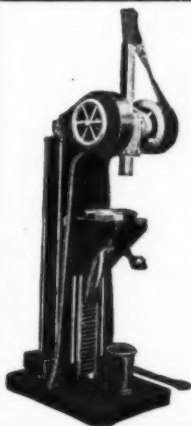
- broken pilots.
- broken cutters.
- trouble in removing cutters from holders.
- trouble with set screws coming loose.

Cutter drive is simple and powerful, and the cutter is easily removed.

Counterbore and spot facer troubles practically done away with.

The J. C. Glenzer Company

6469 Epworth Blvd., Detroit, Mich.



Atlas Arbor Presses

For All Forcing Operations

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

*Write for our Bulletin—
showing 30 different sizes*

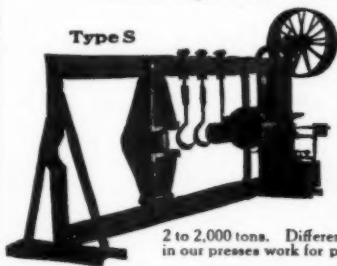
Atlas Press Co.

*Department B,
Kalamazoo, Michigan*

Used in the Biggest Plants

Lourie Hydraulic Presses

Type S



We have, or can make for you, just what you need in Hydraulic, Power or Arbor Presses.

They are quick acting, powerful, money-saving equipment—built from

2 to 2,000 tons. Differential Pumps used in our presses work for production speed.

Let us help you reduce those costs.

LOURIE HYDRAULIC CO., SPRINGFIELD, ILL.

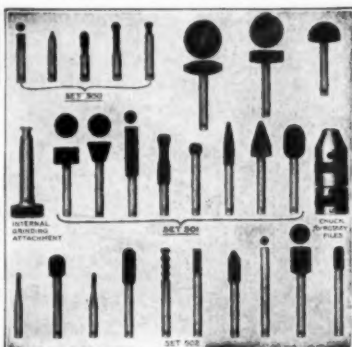


Strand Rotary Files

Used with Strand
Flexible Shaft
Machines. Are
giving excellent
service.

Write for Catalog
N. A. Strand & Co.
5001 No. Lincoln St.
CHICAGO

HIGH SPEED HAND CUT ROTARY FILES



When Taps Break—

Use a Walton!

This handy little device saves time and labor out of all proportion to its small cost. The Walton Tap Extractor soon earns its cost several times over.

You insert the "fingers" into the work, give a few twists, and the tap backs out easily and safely. Sizes No. 8 to 1 1/4".

Shipped on 60 days' approval.

Did you say "ship"?

The Walton Company
Hartford, Conn.



Made in six sizes, for balancing anything that turns on a shaft, up to 24,000 lbs. weight



Anderson Improved Balancing Ways

Spindles are hardened, glass hard, so they do not become indented or lose accuracy. Chilled iron discs; especially sensitive bearings.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards..	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight.....	45	90	150	350	650	
Code.....	Bead	Bid	Bis	Bib	Beu	

Any of above can be furnished with longer shafts

Anderson Bros. Mfg. Co.
1915 Kishwaukee St., Rockford, Ill.

For Sure Balance--

an absolutely level and solid "Way" is necessary

Bowsher "Balancing Ways"



are brought to an absolute level in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground true, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

Three sizes for floor—one for bench use

Send for Catalog "F"

The N. P. Bowsher Co., South Bend, Ind.

No Smoke

No Fumes



Non-Poisonous

Non-Inflammable

Non-Explosive

KASENIT No. 1
For Fine Work and
Very Rapid
Hardening

Sold in $\frac{1}{2}$ lb., 1 lb.,
3 lb., 5 lb. and
10 lb. tins

KASENIT No. 2
For General
Hardening

Sold in 25 lb. and
50 lb. kegs

Write for Booklet on hardening. Ask your dealer or write—

**KASENIT COMPANY, 122 Liberty St.,
NEW YORK, N. Y.**



Style "WC"



Style "O"



The Hinge



Style "G"



Style "A"

**Gits Gravity and Wire Wick
Feed Oilers**

Gravity Feed—flushes
the bearing

Wire Wick Feed—gives
desired prolonged feed.

Wire Wick—replaces
waste or felt.

Made in Standard sizes.



Style "L"

**Write for Catalog
No. 21**

Showing 255 full size
illustrations with detail
dimensions.



Style "KV"

GITS OIL CUPS

Oil cups for every lubricating
need. State style and size in
which you are interested, and we
will send free samples and catalog.

GITS BROS. MFG. CO
1940 SO. KILBOURN AVE., CHICAGO



Style "T"

Burke Bench Millers

**FOR
Accuracy
Convenience
Economy**

On small milling operations, where accuracy as well as production must be had, are the places to use Burke Bench Milling Machines.

*Built in various sizes, both
hand and power feed,
and at prices ranging
from \$125
to \$220.*



\$155

**BURKE
No. 3.**

The Burke Machine Tool Co., 297 East 10th Street,
Conneaut, Ohio

The **BARKER** GENERAL PURPOSE VISE

For Planers, Shapers, Drilling and Milling Machines



Steel faced jaws

*Graduated to swivel
any angle*

*Extra heavy for
hard usage*

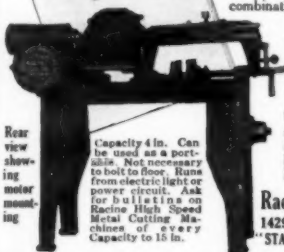
The screw runs through entire length of vise, with bearing on each end. Nut at rear equalizes strain. Sizes 8" and 12" General Purpose and 16" Mold Makers' Vise. Sturdily built, and so *exceptionally handy* that users would not part with them. Be sure to get our literature and prices before buying.

WM. BARKER & CO.

Manufacturer of Machine Tools,

COVINGTON, KY.

Send for this
FREE
CHART



Rear
view
show-
ing
motor
mount-
ing

Capacity 4 in. Can be used as a portable. Not necessary to bolt to floor. Runs from electric light or power circuit. Ask for bulletins on Racine High Speed Metal Cutting Machines of every Capacity to 15 in.

New Improved "RACINE" JUNIOR

WORM GEAR DRIVE direct from motor is now used. All gears enclosed and running in oil. New Improvements in combination with old superiorities make Racine Junior absolutely free from vibration. The quietest, smoothest running as well as the fastest and most accurate metal cutting machine of its capacity.

Use "Racine" H. S. Wood and Metal Band Saw Blades & "Racine" H. S. Tungsten Power and Hand Hack Saw Blades. *Catalog H.*

Racine Tool & Machine Co.
1429 Junction Av., Racine, Wis.
"STANDARD THE WORLD OVER"

Patented
Jan. 30, 1917



New "AUTEX" Extension Reel 1926 Model

Don't Forget the Swivel Joint Feature

Permits of carrying the lamp in any direction.

Type 6 Rapidly finding a place in large Industrial Plants, Machine Shops and Service Stations.

Now equipped with Belden Rubber Cord
Approved by the Underwriters

Write for descriptive circular

The Cincinnati Specialty Mfg. Co., Inc.
1903 Powers St., Cincinnati, Ohio

Save Time Setting Gang Milling Cutters

Eliminate
Thin
Washers



Hardened
and
Ground

PATENTED

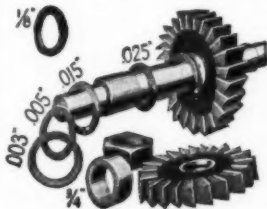
"Wear-Ever" Adjustable Spacing Collars permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for $\frac{3}{4}$ " to $2\frac{1}{2}$ " arbors, sent on approval
They are adjustable in 12 steps of $2/1000$ inches

SCULLY-JONES & CO. TOOL DIVISION
13th and Robey Streets CHICAGO, ILL.

Steel Spacing Washers—

Made of a good grade of Cold Rolled
Strip Steel, also known as Shim Steel



Stock sizes for arbors of
following diameters: $\frac{3}{8}$,
 $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$,
 $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, $1\frac{7}{8}$, 2,
 $2\frac{1}{4}$, $2\frac{1}{2}$, 3, $3\frac{1}{2}$ and 4 in.
and larger.

Stock thicknesses: .002,
.003, .004, .005, .006,
.007, .008, .010, .012,
.015, .020, .025, .032,
.047, .063, .093 and
.125 inch.

Other thicknesses up to
3.000" made to order, with
keyways if so ordered.

Ask us to send samples; you'll like them

Detroit Stamping Company
3443 West Fort St., Detroit, Mich.

Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

Write today for our Descriptive Catalog.

American Tool Works, Inc.
Hartford, Conn., U. S. A.



High Quality—Right Prices—Good Service Hollow Bored Forgings and Steel Shafts



Piston Rods

Rams

Clutch Shafts

Steel Pipe

Lathe Spindles

Etc., Etc.

Send blueprints with trial order or for quotation

American Hollow Boring Co.
Erie, Penna.



"Borgeson Universal Joints"

Are you a user of Universal Joints?
If so!

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

SIZES: $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$,
 $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, $2\frac{3}{4}$.

Should you require Special Universal Joints, be sure to write for quotation.

*Complete description gladly
furnished upon request*

The Borgeson Mfg. Co., Inc.
Torrington, Conn.

*There's a
saving every
time they're used*



It Costs Less To Cut

rounds, squares, flats
and to

Punch Those Holes
on

"The Bench" No. 3

Combination Shear,
Rod Cutter & Punch

CAPACITY $\frac{5}{8}$ "

\$45⁰⁰ f. o. b.
Phila.

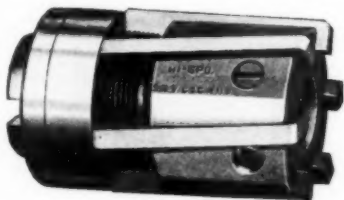
THE BENCH MACHINE TOOL CO.

Makers of "THE BENCH" Tapping Machines

222 N. 13th Street,

Philadelphia, Pa.

"X-L" Adjustable Inserted Spiral Blade Shell and Machine Reamer



Reamers made with Left Hand Angle Cutting Blades do not dig in, and all chatter is eliminated. This means free, clean cutting, smooth holes, and increased production.

The range of expansion is from .100" in the smaller sizes to .150" in the larger sizes. Made with High Speed Steel Blades.

This is a real production reamer. The left hand helical flutes cut fast and clean. Made only in high speed steel. Made with straight and tapered shanks. All sizes carried in stock.



Catalog on Request

The Schellenbach-Hunt Tool Co.

118 Opera Place, Cincinnati, Ohio

**Agents: Gropler Bros., 105 Hudson St., New York, N. Y.
E. E. Fletcher, 6007 Euclid Ave., Cleveland, Ohio**

Second-Hand Machinery

Lists of Second-Hand Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published under this heading at the rate of **50 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted in this department.

Write directly to those offering the machines for sale for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

Circulation of Machine Tool Blue Book, 25,000.

FOR SALE BY

Botwinik Brothers, Inc., • 67 Water St., New Haven, Conn.

MILLING MACHINES.

10—Brown & Sharpe No. 1 plain cone drive milling machines, with counter-shafts. Price \$275 each net, f.o.b. New Haven, Conn. Many other bargains.

Wire, write or phone.

FOR SALE BY

Surplus Material & Machinery Co., 8735 Kercheval, Detroit, Mich.

Beader, No. 0 Niagara.
Hammer, 15 lb. Bradley.
Riveter, 3A High Speed.
Riveter, Grant spinning.

Rolls, 6x44 Niagara.
Saw, hack, 8" Atkins.
Shear, 2½ bar, Carlin.
Swaging machine, No. 4 Standard.

FOR SALE BY

J. P. Rentschler & Co., • 6722 N. Maplewood Ave., Chicago

PRESSES.

No. 87 Bliss, foot-lever.
No. 0 Wm. Freck, open back.
No. 3 Kohler, o. b. i., 4" stroke.
No. 3 R. & K., o. b. i., 4" stroke.
No. 4 Stiles, geared.
No. 60½ Bliss, rack & pinion.

1½ Bliss, toggle.
23-C double crank.
666 Toledo, knuckle-joint.
169½ Toledo, toggle.
299 Stiles, toggle.
275 Toledo, poppet drop.

MISCELLANEOUS.

Annealing gas furnace, National, 11"x19"x36" deep.
Grinder, No. 1 Cincinnati universal tool and cutter.
Shear, No. 30 Niagara, power square, capacity 20 ga.

FOR SALE BY

Edward L. Klauber, • 320 South Third St., St. Louis, Mo.

Bolt cutter, Little Giant, 1" cap.
Bolt cutter, National, ¾" cap.
Bolt cutter, National, ¾" cap.
Bolt cutter, Landis, 2" cap.
Die head, Landis, cap. 2".
Drill press, 34", b. g., s. h., t. a.
Drill press, 24", Aurora, b. g., s. h.
Grinder, No. 2 Cincinnati univ. 12x36.
Grinder, No. 1 Cincinnati cutter & tool.
Grinder, B. & S. No. 3 cut. & reamer.
Grinder, No. 11 Brown & S. plain.
Grinder, No. 10 Besly disc, ring wh.

Lathe, 14"x6' Monarch, d. b. g., q. c. g.
Lathe, 16"x8' Monarch, d. b. g., q. c. g.
Lathe, 16"x8' South Bend, plain chge.
Lathe, 16"x8' Lodge S., q. c. g., d. b. g.
Lathe, 21"x8' LeBlond, q. c. g., d. b. g.
Miller, No. 2 LeBlond universal.
Planer, American 30"x30"x8'.
Punch press, No. 2 Toledo, o. b. i.
Punch press, No. 2 Rockford, o. b. i.
Punch press, No. 3 Toledo o. b. i.
Roll, Hilles & Jones, 8"x½" cap.
Shaper, 20" Smith & Mills, b. g.

SECOND-HAND MACHINERY

FOR SALE BY

A. F. Strafer, 30 Church St., New York City

BORING MILLS, VERTICAL.

- 12' Betts, standard type, belt driven.
- 10'-16" Niles extension type, with extension boring attachment, belt driven.
- 96" Bickford, widened type, belt driven.
- 96" Betts, arranged for d. c. motor drive.
- 90" Niles, friction feed, belt driven.
- 72" Niles-Bement-Pond, heavy, modern, arranged for d. c. motor drive.
- 60" Baush, heavy, quick change feeds, 10 h. p., d. c. motor drive with push-button starter and dynamic brakes.
- 42" Bullard V. T. L., New Era type, rapid traverse, side hd., sgl. pulley dr.
- 42" Bullard, one turret and one side head, qk. ch. rapid traverse, motor dr.

BORING MILLS, HORIZONTAL.

- 6" bar, Bement Miles, floor type; floor plate 20"x10"; column traverse, 10'; maximum distance floor plate to center of bar, 96"; belt drive.
- 5" bar, Sellers, floor type, floor plate, 14"x20" modern, belted motor drive.
- 3" bar, Betts, knee type, cross table 26"x85".
- 6" bar, Barrett horizontal cylinder boring machine.
- 3½" bar Beaman Smith, table type, quick change feeds, etc.

CRANES.

- 50-ton, 86' span, Pawling & Harnischfeger, with a 10 ton auxiliary hoist, d. c. motors.
- 15 ton Northern, 47' span, 3 motors, d. c.

Tell me your requirements and I may have something that will fill them.

COMPRESSORS.

- 1200' Chicago Pneumatic, 2 stage, cylinders 20"x14" and 12"x14", belted motor drive, with 200 h. p., a. c. motor and starter.
- Ingersoll-Rand, 2 stage cylinders, 16"x14" and 10"x14", belted motor drive, 160 h. p., a. c., 2200 volt, synchronized motor.

DRILL PRESSES.

- 7' Baush late type, tapping attachment, box table, belt drive.
- 6' Reed Prentice, latest type, self-contained, a. c. motor drive.
- 6' Niles-Bement-Pond, semi-universal, d. c. motor drive.
- 5' Western, tapping attachment, single pulley drive.
- 3' Carlton, radial, belt driven.
- No. 310 Baker, high duty, capacity 2½", single pulley drive.
- 28" Mechanics, sliding head, upright, belt drive.
- 24" Superior, sliding head, upright, belt drive.
- 6-spindle, 20" Barnes gang drill, power feeds.
- Style "F" heavy pattern Baker upright.

Send your requirements for cluster type and multi-spindle drills.

GEAR CUTTERS.

- No. 5 Brown & Sharpe automatic, for spur gears.
- Gould & Eberhardt, 24"-35"x8", vert. type, auto. for spur and bevel gears.
- Gould & Eberhardt 36" automatic, for spur gears.
- No. 2½ Bilton automatic gear cutter.

GRINDERS FOR CYLINDRICAL WORK.

- | | |
|---|---------------------------------------|
| 18"x96" Norton pl., arr. for motor dr. | 6"x32" Norton plain. |
| 10"x72" Norton plain, overhead, belt drive, complete equip. | No. 11 Brown & S. plain, 6"x32". |
| 12"x48" Modern pl., standard equip. | No. 1 Landis only, 10"x30", belt dr. |
| 10"x36" Norton plain, belt drive | 12"x60" Landis universal, belt drive. |
| | No. 2 Landis univ., 12"x32", belt dr. |

GRINDERS, SURFACE AND TOOL.

- | | |
|------------------------------------|------------------------------------|
| 84" Diamond surface, motor drive. | Diamond grinder stand, for wheels, |
| No. 3 Brown & S., cutter and tool. | 14"x14"—\$25. |
| Cincinnati electric floor type. | |

HAMMERS AND FORGING MACHINERY.

- 3000 lb. Bell double leg steam forging hammer.
- 1500 lb. Niles-Bement-Pond single frame steam hammer.
- 1400 lb. Chambersburg single frame steam hammer.
- 600 lb. Erie single frame steam hammer.
- 500 lb. upright helve belt driven hammer.
- No. 4 type "1" Nazel hammer, with 10 h. p., 230 v., d. c. motor drive.
- No. 4-B Nazel hammer, arranged for motor drive.

(Continued on Next Two Pages)

SECOND-HAND MACHINERY

A. F. Strafer, - - - 30 Church St., New York City

(Continued from Preceding Page)

HAMMERS AND FORGING MACHINERY—Continued.

No. 3-B Nazel hammer, arranged for motor drive.
500 lb. No. 5 Standard Machine Company automatic drop hammer.
300 lb. Standard Machine Company automatic drop hammer.
600 lb. Miner & Peck poppet drop hammer.
350 lb. Miner & Peck poppet drop hammer.
400 lb. model "B" Billings & Spencer board drop hammer.
Ajax 2" upsetter and forging machine.
Anvils, bending plates, blacksmith tools.

TURRET LATHES.

Gisholt 24" modern, motor drive.	Steinle 24", new.
Gisholt 28", modern, belt drive.	Davis 24"x10", very low price.
Jones & Lamson, 34"x36" bar equipment, serial No. 15084.	14"x18" American engine lathe, hand feed, turret on bed.
J. & L. 24"x24", chuck equipment.	Bardons & O., 14" turret lathes, fric. fds., with and without wire fd., (6).
Greenlee 24"x26", chuck equip.	

ENGINE LATHES.

100"x50" N.-B.-P., with raising blocks to 140", latest geared head, motor drive, 2 carriages.	36"x16" N.-B.-P., new, triple geared, q. c., heavy duty, belt drive.
60"x16" New Haven, trip. grd., belt dr.	36"x23" Fitchburg taper att., belt dr.
52"x24" Putnam, triple grd., belt dr.	32"x20" Fitchburg, taper att., belt dr.
50"x30" Pittsburgh, q. c., latest type, belt drive.	32"x32" Pond, belt drive.
50"x36" Bement M., tr. grd. belt dr.	30"x20" Fitchburg, belt drive.
50"x16" Fitchburg, belt drive.	28"x16" Prentice, geared head, q. c.
44"x21" N.-B.-P., triple grd. belt dr.	24"x28" Fitchburg, taper att., belt dr.
42"x42" Fitchburg, triple geared, belt drive taper.	21"x 8" R. K. LeBlond, heavy duty, q. c., latest type, with 5 h. p., d. c., 220 volt motors mounted on headstock, (8).
38"x22" Pittsburgh, triple geared, belt drive.	17"x16" LeBlond, rapid production, 3-step cone type.
36"x33" Putnam, triple grd., mtr. dr.	

MILLING MACHINES.

No. 4 Cincinnati plain, cone type.
No. 3-B Brown & S. hvy, plain, grd. hd., with constant spd., 220 v., d. c. mtr.
No. 3 LeBlond universal, cone type, double back gears.
No. 3 Kempsmith universal, complete equipment, cone type.
No. 2-B Brown & Sharpe heavy, geared head, motor drive, with motor.
No. 2-Y Brown & Sharpe plain, cone belt drive.
Duplex miller, No. 8 Becker single pulley drive quick change.
Planer type, Beaman & Smith No. 2, with one rail and one side head, table 24"x8", motor drive.
Manufacturers' type, Brown & Sharpe No. 13-B, 34"x84"x12".
Manufacturers' type, 28" Cincinnati, semi-automatic.
U. S. Manufacturing Company hand Miller.

PLANERS.

120"x144"x25" Wm. Sellers, 4 heads, belted motor drive.
120"x120"x25" Niles, four heads, belted motor drive.
14"x9"x26" planer specially built, belt drive.
96"x72"x24" Detrick & Harvey, open side, 3 heads, belt drive.
72"x72"x16" Pond, 3 heads, belt drive.
54"x54"x22" Niles-Bement-Pond, 4 heads, latest electric reversing drive.
50"x36"x22" Niles-Bement-Pond, 4 heads, latest electric reversing drive.
48"x48"x16" Niles-Bement-Pond, 4 heads, latest electric reversing drive, (5).
42"x42"x30" Niles-Bement-Pond, 4 heads, box table, all steel gearing.
42"x42"x26" Niles-Bement-Pond, 4 heads, electric reversing drive.
36"x36"x16" Niles-Bement-Pond, new, box table, steel gearing, etc.
36"x36"x14" Niles-Bement-Pond, 4 heads, electric reversing drive.
36"x36"x26" Niles-Bement-Pond, new, box table, steel gearing, etc.
42"x42"x12" Gleason, two heads, belt drive.
48"x48"x10" Pond, three heads, electric reversing drive.

(Continued on Next Page)

SECOND-HAND MACHINERY

A. F. Strafer, **30 Church St., New York City**

(Continued from Two Preceding Pages)

PLANERS—Continued.

36"x36"x10' Gray type, 3 rail heads, belt drive.

30"x30"x 8' Detrick & Harvey (Bethlehem Steel), 2 heads.

24"x24"x 8' G. A. Gray, one head, belt drive.

PUNCHES AND SHEARS AND PLATE MACHINERY.

Alligator No. 4 Doelger & Kursten, cap. 5" round, 14"x36" plates, high knife, 36" blade, arranged for motor drive.

Gate shears, Hillis & Jones, 74", with 84" blades, 26" gap, 14" capacity, (2).

Multiple punch, Long & Allstatter, 104" between housings, 250-ton pressure.

Triple armor plate combination Schatz punch, 14", shear 12" "I" beams, 6"x6"x4" angles.

Size D. Long & Allstatter, double, capacity 3"x14", motor drive.

No. 6 Hillis & Jones, single end, 60" throat, a. c. motor drive.

No. 6 Hillis & Jones, single end, 32" throat, belt drive.

No. 54 Hillis & Jones, single end, 72" throat, motor drive.

No. 13 Williams & White, 72" throat, single end, cap. 14"x14", motor drive.

No. 6 Quickwork rotary, 48" throat, motor drive.

No. 4 Hillis & Jones, double, 48" throat, a. c. motor drive.

No. 4 Hillis & Jones, double, 48" throat, belt drive.

Angle shear, No. 3 Hillis & Jones, double, capacity 6x6x1, belt dr.

No. 3 Hillis & Jones, double, 36" throats, belt drive.

No. 3 Hillis & Jones, single, 12" throat, belt drive.

No. 2 Hillis & Jones, single, 50" throat, belt drive.

Cleveland 14x1, 40" throat, single, belt drive.

Rotary Lennox, 44" throat, 8" capacity.

Rotary Hillis & Jones, No. 2, rotary bevel, cap. 4", arranged for motor drive.

Cleveland No. 4 B-A, single, 24" throats, cap. 4"x4", belt drive.

Alligators, five small alligator shears, 2" capacity, 8" & 10" knives.

Horizontal punch, Long & Allstatter, 9" throat, cap. 1x1, belt drive.

Plate planers, Hillis & Jones No. 6, 25', belt drive.

Combination punch and angle bender, Hillis & Jones, motor drive.

Plate joggling machine, cap. 4" plate, 42" from edge, motor drive.

ROLLS.

Wickes bending rolls, 20', top roll 18", lower roll 14", drop end housings 50 h. p., a. c. motor drive.

Bertsch rolls, pinch type, top roll 18", lower roll 14", drop end housings, m. d.

10' 6" Southwork bending rolls, top roll 14", lower roll 9 1/2", solid housings, arranged for motor drive.

7' William Sellers, top r. 12", lower r. 10", pinch type, drop end housing, belt dr.

Straightening rolls, No. 2 Hillis & J., 6 rolls dia. 10", 6' 10" bet. hous. belt dr.

Straightening rolls, Hillis & Jones, 51", six rolls, 8" diameter.

SHAPERS.

20" Gould & E., bk. grd. cone type. | 16" Smith & M., s. g., crank, belt dr.

16" Hendey, fric. type, vise & c. s. | 16" Milwaukee, bk. grd., cr., belt dr.

SLOTTERS.

18" Newton, cir. table, 48" dia., belt dr. | 12" Putnam, table 33" dia., belt drive

18" Betts, cone type, belt drive, | 24" Clement Miles, belt drive.

MISCELLANEOUS EQUIPMENT.

Broaching machines, LaPointe Nos. 1, 2 & 3.

Conveyor, Jeffreys, for coal or sand, 37 buckets, 40' lift on portable truck, 3 ph., 60 cy. 220 v. motor drive.

Core wire straightener, 1/8" to 1/2" capacity, new.

Cranes, 5-ton to 50-ton capacities.

Knife grinder, 30" and 40".

Locomotive crane, Brown hoist, 15-ton, 8 wheel, 50' boom, magnet & gener.

Moulding machines. (1) Tabor, (3) Champion.

Pipe machines and bolt cutters.

Rivet spinner, 1/2" capacity, Grant.

Steam shovel, No. 3 Thew.

Surface plates, Brown & Sharpe, 12"x18", (2).

Tapping attachment, Errington, 1" capacity.

Miscellaneous Equipment from a large ship and engine company, consisting of machine shop, forge shop, pipe shop, brass foundry, office, etc.

SECOND-HAND MACHINERY

FOR SALE BY

McMullen Machinery Company.

Grand Rapids, Mich.

Automatic, 1" Cleveland.
Automatics, No. 00 B. & S.
Band saw, Napier, metal.
Cut-off saw, No. 4 N. & B.
Drill, 31" Barnes, sliding head.
Grinder, No. 6-A Bryant.
Lathe, 24x26 Greenlee, flat turret.
Miller, No. 2-H Becker vertical.

Pipe machine, 6" Merrill No. 64.
Press, Chicago scrap baler.
Press, No. 3 Manville, d. a.
Presses, No. 6 Manville, pillar, (3).
Presses, No. 6B Manville, pillar, (2).
Shear, No. 14 Pettingell, rotary.
Shear, No. 2 W. F. Co. 36" gang.
Welders, No. 10-A Thomson vert. (7)

Ask for Complete List.

FOR SALE BY

D. E. Rowllinson,

Box 265, Utica, N. Y.

Buffing stands, new and used, also emery stands.....\$10. to \$85.
Drill presses, 10" to 20" bench and floor.
Engine lathes, Hendey, Smith, Flather, Seneca Falls 12" to 18".
Hack saw, Fairbanks make.....\$ 25.
Miller, Kempsmith universal, q. c. gears, div head, like new.
Miller, Owen universal, with d v head, vise and chucks.
Presses, Bliss make, one inclinable.
Radial drill, Bickford, Cincinnati, Ohio, q. c. gears, angle and chuck.
Shaper, American, 15" vise, almost new, bargain.

Many other tools not listed, also hangers, belting, motors, pulleys.

FOR SALE BY

Foster Machinery Company,

10203 Quincy Ave., Cleveland, O.

Angle shear, No. 2 Cleveland, 4x4 1/2" angle.
Boring mill, vertical, 42" Bullard.
Grinder, No. 60 Heald, cylinder.
Grinder, Greenerd, tool & cutter.
Grinder stand, Western No. 4, two 14" wheels.
Lathe, 16"x8" Monarch.
Lathe, 18"x8" Lodge & Shipley.
Miller, No. 60 Brown & S., hand.

Miller, No. 00 Owen, Fox type.
Press, No. 1 Consolidated.
Riveter, Hanna, 24" throat, 15" gap, 1/2" rivet.
Rivet hammers, No. 2-A, No. 4-A.
Shear, alligator, Canton, capacity 1 1/2" square.
Squaring shears, No. 210-A Pexto, power.
Trolleys, I-beam, 1 & 2 ton.

FOR SALE BY

Taylor-Hall Welding Corporation,

5 May St., Worcester, Mass.

SPOT AND BUTT WELDERS.

We offer rebuilt and fully guaranteed spot and butt welders as listed below:

One No. 0 Toledo butt welder, capacity 1" round stock.
One No. 1A Thomson butt welder, capacity 1 1/2" round stock.
One No. 2A Thomson butt welder, capacity 1 1/2" round stock.
One No. 7C Thomson butt welder, capacity 1 1/2" round stock, or flats 2 1/2"x1 1/2".
One No. 10-A-6 Thomson butt welder, capacity 1 1/2" round.
One No. 3 Thomson butt welder, capacity 1 1/2" round, or flats 2"x3".
One No. 20-A-10 Thomson butt welder, cap. 1 1/2" round solid or 2" round pipe.
One No. 10B Toledo butt welder, capacity 1 1/2" round or 2 1/2" pipe.
One No. 40-A-2 Thomson butt welder, capacity 2" round solid stock.
One No. 133 Thomson spot welders, 10 k. w.
Two No. 140 Toledo spot welders, 20 k. w.
One No. 340 Thomson spot welder, 20 k. w.
One Thomson electric riveter, for rivets 1/2"x1 1/2" long to 1"x3" long.
One Thomson No. 21 automatic butt welder. This can weld 1,000 3/16" barrel hoops per hour, other work at similar speed.

Every machine demonstrated and fully guaranteed before selling.

Offered for immediate delivery and subject to prior sale.

SECOND-HAND MACHINERY

FOR SALE BY

Cyril J. Bath & Co., E. 70th & Mch. Ave., N. E., Cleveland, O.

BORING MILLS—VERTICAL.

42" Baush, 2 swivel heads, 75%. 60" Niles, 2 swivel heads and one internal boring head.

44" Bullard maxi-mill.

100" Niles, 2 heads.

BORING MILLS—HORIZONTAL.

No 36 Landis, floor type, 3½" bar, 80%. Morton floor type boring, drilling and slotting machine.

5" bar Beaman & Smith.

DRAW BENCHES.

15,000 lbs. to 25,000 lbs. Waterbury-Farrel, United Engineering and Standard; 20" draw, with 18" extensions for mandrels, heavy cast iron; 85%.

DRILLS—MULTI-SPINDLE.

4-spindle 20" Barnes, 85%. 4-spindle Barr sensitive, 85%.

DRILLS—RADIAL.

5' & 6' Bickford. No. 1, 8' wall radial.

DRILLS—UPRIGHT.

24" Cincinnati, slid. hd., fric. bk. grs. 32" Cincinnati, with tap. att., 75%.

28" Cincinnati, sliding head, 80%. 24" No. 25 Foote-Burt, 90%.

FORGING MACHINES AND BULLDOZERS.

4, 5, & 25 Bulldozers. 250-ton Mesta steam hydraulic, 85%.

1" & 2" Forging machines.

GRINDERS.

10x36" Modern univ., and parts, 70%. Mammoth shear blade grinder, capacity 100" long.

84" Diamond surface, 85%.

18x96" Norton plain, 75%.

HAMMERS.

100-lb. Bradley, helve, 75%—90% (3). 800 lb. to 4000 lb. board and steam drops.

350 lb. to 8000 lb. steam forging.

LATHES.

16" to 20" tool room, various lengths. 32"x18" Schumacher, cone head, 60%.

25"x12" LeBlond heavy duty.

27"x22" Bridgeford, pl. turning, m. d.

30"x16" Lodge & Shipley selective geared head, arranged m. d.

30"x22" Bridgeford, pl. turning, m. d.

32"x32" Bridgeford, comp. rest, m. d.

48"x26" Bridgeford, grd. hd., t. a., 85%.

54"x34" Houston, Stanwood & Gamble, geared head, motor drive.

MILLING MACHINES.

Style "B" Gooley & Edlund, 80% (2). Becker miller, model "C," table

No. 3 Brown & Sharpe, plain, 65%.

No. 3B Brown & S., pl., heavy, 60%.

14"x54", motor drive, 85%.

No. 4 Cincinnati high power miller.

PLANERS AND SHAPERS.

30"x30"x8' Gray, single head, 80%.

48"x48"x18' Pond, 4 heads, heavy duty.

72"x72"x16' Betts, four heads, 90%.

60"x48"x16' Pond, 2 hds., old style, light pattern, 50%.

20" American crank shaper.

PIPE MACHINES.

No. 94 Merrill, capacity 2½" to 8".

2" & 4" Jarecki, with dies and countershaft, late models, 85%.

BENDING ROLLS.

10"—4" capacity Niles-Bement-Pond, drop end, pyramid type.

PUNCHES AND SHEARS.

6x6 Hillis & Jones angle shear.

No. 26 Whitmore slitting shear.

54" gap American ship punch, capacity 1" thru 1", 70%.

84" throat, Long & Allstatter capacity about ¾" thru 1".

Kling Bros. horn press, 60" horn, flywheel 50" dia., 6½" face.

48" throat No. 4 Southwark, capacity 2"x1½".

60" throat No. 5 Southwark, capacity 1½"x1½".

No. 6 Quickwork rotary shear, capacity up to 1½" plate.

36" throat Lennox rotary shear, capacity about ½" plate.

No. 2 Garrison alligator shear.

TUMBLING BARRELS.

Several sets 18"x48" chill lined square, with roller bearings and exhaust.

TURRET LATHES AND SCREW MACHINES.

21" Gisholt, standard model, 70%.

3"x36" Jones & Lamson.

No. 3A Warner & Swasey.

SECOND-HAND MACHINERY

Cyril J. Bath & Co.—Continued
MISCELLANEOUS.

Acetylene generator.
Blower, No. 4 Root, motor drive.
Blower, American, 9' fan, motor driven, 85%.
Blowers, Sturtevant, motor driven, 85%, (2).
Boring machine, for cylinders, portable, 4" bar, 7" feed, arranged for motor or engine drive, 75%.
Cold saw, 48" Newton.
Gear cutter, 36" Gould & Eberhardt, 60%.
Press, No. 66 Consolidated, 4" stroke.
Pyrometer, Brown.
Slotter, 48" Niles-Bement-Pond, motor drive.

FOR SALE BY

Hill, Clarke & Co., Inc., - 156 Oliver St., Boston 9, Mass.

BENCH LATHES.

American W. T. Co., 7" swing, 32" bed, (3).

AUTOMATICS.

Brown & S. No. 2, cap. 1 1/2"x2 1/2". National Acme No. 56, cap. 2 1/2".

RADIALS.

Wm. E. Gang Co., 2 1/2' arm. Prentice, 5' arm.

KEYSEATER.

Mitts & Merrill No. 5 well equipped.

PLANERS.

Gray 24"x6', one head. Whitcomb-Blaisdell 30"x8', 2 heads.

Cincinnati 24"x6', one head. D. W. Pond 36"x16', 2 heads.

Whitcomb-Blaisdell 24"x8', 2 heads.

MILLING MACHINES.

Milwaukee No. 1-A mfg., single overarm. Milwaukee No. 3B pl., sgl. overarm.

Milwaukee No. 1-B pl. sgl. overarm. Brown & Sharpe No. 3B plain.

Brown & Sharpe No. 1 1/2 plain. Garvin No. 1 universal.

Brown & Sharpe No. 2B plain.

VERTICAL SURFACE GRINDER.

Pratt & Whitney, 24" feed.

PIPE MACHINE.

Bignall & Keeler, 8" capacity.

FOR SALE BY

Brown Machinery Co., - 2323 N. 9th St., St. Louis, Mo.

Buffing lathe, Hisey 3 h. p. electric, a. c.	\$ 100.
Buffing lathe, U. S. 3 h. p. electric, a. c.	125.
Drill, 24" Aurora, sliding head, tapping attachment.	275.
Drill, Baush No. 3 multiple, cap. 30 spds., rectangular hd. 20x40".	Price 1500.
Drill, radial, horizontal, No. 1 Barnes, d. c.	300.
Gear shaper, 36" Fellows.	500.
Grinder, cylinder, No. 60 Heald.	850.
Grinder, No. 14 Gardner, b. b., disk, dry, 20" disks, good cond.	Price 400.
Grinder, No. 6 Besly two-spindle disk, 20" disks.	Price 300.
Grinder, LaSalle pattern, automatic surface, good condition.	Price 275.
Grinder, No. 1 Brown & Sharpe universal, 10x24; good condition.	Price 375.
Grinder, No. 14 Besly single spindle ring wheel.	Price 400.
Grinders, emery, St. Louis and Western.	
Hammer, size A United, motor driven.	450.
Lathe, 16"x8' Monarch, heavy duty, each.	375.
Lathe, 20"x8' Reed.	300.
Miller, No. 1B Fox, hand & pwr. fd., 18x6x14; new, never used.	Price 400.
Motors, (40); 1 to 40 h. p., 3 phase, 60 cycle.	
Planer, 60"x60"x20' Niles, 3 heads.	
Polishers and buffers, drop head, New Britain, each.	50.
Press, geared, No. 5 Stiles & Parker, weight about 9000 lbs.	
Shear, Marshalltown No. 134 rotary splitting, cap. 4" plate; 4' throat; arranged for motor drive. Like new.	Price 750.

SECOND-HAND MACHINERY

FOR SALE BY

Bennett Machinery Co.,

Brake, 8' Chicago, 10 gauge.
Cold saw, 6' Gleim.
Drills, 20" & 24" Rockford.
Keyseater, No. 4 Mitts & Merrill.
Lathe, 16"x8' Hudson.

30 Church St., New York City

Lathe, 18"x8' Bell.
Miller, univ., No. 3 Hendey, cone.
Planer, 84"x12' Pond, 4 head, belt.
Plate planer, 18' Niles.
Radial, 4' Dreses, cone drive.

FOR SALE BY

D. C. Oviatt & Co.,

2170 Lakeside Ave., Cleveland, O.

PRESSES.

Bliss Nos. 1½ & 3½B, toggle.
Bliss No. 2 double crank.
Bliss No. 2-W wiring press.
Bliss 60½ rack and pinion.
Bliss 68-C & 68-N double action.
Bliss Nos. 73½, 77½ & 78½ s. s.
Consolidated No. 56 trimming.
Consolidated No. 65 grd., straight s.
Consolidated No. 165 dbl. crank.

Toledo No. 666 knuckle joint.
Toledo 35-P flywheel press.
Toledo No. 78 flywheel.
Toledo 54 & 55½, straight side.
Toledo No. 165½ toggle drawing.
Ferracute EG-6 embossing press.
Ferracute D-66 s. s. reducing.
Michigan No. 5 inclinable flywheel.
Niagara No. 4½ inclinable, flywheel.

MISCELLANEOUS.

Automatics, Gridley 1½", 1½", 1½".
Bulldozers, W. & W. 2, 4, 6, 30.
Drills, Colburn D-1, D-2, D-3.
Forging machine, 4' Acme.
Gear cutter, No. 3 B. & S. 26".
Gear cutter, No. 3 B. & S. 36".
Grinder, Pratt & Whitney 14".
Rivet hammers, 2-A, 3-A, 4-A & 5A.
Rolls, N-B-P, 10", capacity ½".
Saws, Ryerson friction No. 3.
Screw slotter, No. 2 W-F., cap. ½x3".
Seamer, dbl., No. 22 Max Ams irreg.

Seamer, dbl., Niagara No. 10-S.
Shears, Bertsch 8', 21" thrt., 3/16".
Shear, alligator, Canton No. 5.
Shear, alligator, Hiles-Jones No. 3.
Shear, Niagara 416-C slitting.
Shear, Toledo 36"x18 ga. power.
Shear, Quickwork rotary No. 40.
Tumbling barrels, 18"x30"x48".
Turret lathes, W. & S. 4 and 6.
Turret lathe, Libby 18".
Turret lathes, Acme 14"x36".
Welder, Winfield, cap. 2 pcs. 3/16".

Over 400 Machine Tools in stock. Send us your inquiries.

FOR SALE BY

Cincinnati Machinery & Supply Co., 215 E. Pearl St., Cincinnati, O.

LATHES.

14"x8' Hendey tool room, q. c.
16"x8' Hendey tool room, q. c.
20"x8' Hendey tool room, q. c.
20"x12' Hendey tool room, q. c.

24"x12' American, l. c. g., #475.
30"x12' LeBlond heavy duty, q. c.
36"x14' Fay Scott, l. c. g.

MILLING MACHINES.

No. 1 U. S. hand millers, #125.
No. 6 Whitney hand millers.
No. 2 Cincinnati, #285.

No. 2 Brown & Sharpe, sgl. p. d.
No. 4 Brown & Sharpe, sgl. p. d.

GRINDERS.

No. 60 Heald cylinder.
No. 70 Heald grinder.
10"x30 Landis.

7"x30 Greenfield, for general and piston work, #200.

PLANERS AND SHAPERS.

72"x60"x30' Hamilton, 5 heads.
30"x32"x12' Gray, 1 head, #600.
24"x24' Gray, 1 head.
19"x18"x48" Hendey, 1 head.

20" Columbia crank shaper.
18" Barker crank shaper.
12" Hendey friction, #125.

RADIALS.

3' Prentice, single p. d.
4' Bickford universal.

6' Bickford, single p. d.
5' American, cone drive.

MISCELLANEOUS.

Chain hoists, half-ton Tribloc, #22; one ton, #27.

Write for complete machinery and small tool lists.

SECOND-HAND MACHINERY

FOR SALE BY

The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.

ENGINE LATHES.

14"x 6' LeBlond, l. c. g. and chuck.
14"x 6' Hamilton.
14"x 6' American, c. r. and t. a.
14"x 6' Porter, c. r. and t. a., l. c. g.
14"x 8' Monarch, c. r., stand. pattern.
16"x 6' South Bend, c. r., complete.
16"x 8' Lodge & Shipley, old style,
c. r., q. c. g.
18"x 8' Prentice c. r., l. c. g., chuck.
18"x 8' American, 3-step cone, d. b.
E., q. c. g.

18"x 8' Schumacher-Boye & Emmes,
c. r., 5-step cone, s. b. g., q. c. g.
18"x 10' Star, 4-s. c., s. g., with 16"
4-jaw ind. chuck.
24"x 12' Lodge & Shipley, patent hd.,
compound rest, q. c. g., arranged
for constant speed motor drive.
27"x 12' Lodge & Shipley, patent hd.,
compound rest, q. c. g., arranged
for constant speed motor drive.

TURRET LATHES AND SCREW MACHINES.

No. 2-A W. & S. g. h. tur. lathes.
No. 3-A W. & S. g. h. turret lathe.
No. 4 W. & S. g. f. h. universal tur-
ret screw machine.
26" Gisholt heavy duty turret lathe.
2"x 24" Jones & L. g. h. flat turret.
No. 00 Brown & Sharpe auto., (3).
No. 0 Brown & Sharpe auto. (2).
No. 4 W. & S., p. h., a. c. & b. f.
No. 2 W. & S., p. h., a. c. and b. f.
No. 4 Warner & S., g. f. h., a. c. and
b. f.

No. 3 Foster g. f. h. turret screw mch.,
with p. f. carriage and turret.
No. 35 Nat'l Acme 4-spld. auto., (3).
24" Cleveland model "A" auto.
screw mch., with 5-hole turret.
14" Cleveland model "A" auto.
screw mch., with 5-hole turret.
No. 6 W. & S. g. f. h. screw machine,
with p. f. turret.
18" Libby, factory rebuilt.
No. 2-G B. & S. automatics (2).
No. 2 B. & S. turret forming (2).

DRILLING MACHINES.

20" Barnes geared, camel back.
22 1/2" Cincinnati, sliding head, fric-
tion back geared, power feed.
24" W. F. & J. Barnes, sliding head,
back geared and power feed.
26" Aurora, slid. hd., b. g. and p. f.
2' arm Fosdick & Holloway plain
radial, with t. a.
24" Baker heavy duty.

No. 2-D Minster heavy duty, with
compound table.
7" No. 1 Allen sgl. spld. ball b., (4).
12" Mechanics, friction driven.
14" 4-sp. Leland-G., h. s., b. b. (2).
14" 2-spld. Avey, h. s., b. b., (2).
14" 3-spld. Henry & W., h. s., b. b.
14" 4-spld. Henry & W., h. s., b. b.

MILLING MACHINES.

No. 0 Bickett, hand, bench type (3).
Toledo hand milling machines.
No. 13-B B. & S. mfg. type, (2).
No. 1-B K. & T. "Milwaukee"
plain, constant speed drive.

No. 3 Brown & Sharpe vertical.
No. 1 Brown & Sharpe vertical.
No. 22 Garvin vertical, with circular
milling attachment.
No. 1-Y Brown & Sharpe plain.

GRINDERS.

No. 1 B. & S. universal.
No. 3 B. & S. universal.
No. 2 B. & S. surface, (2).
No. 10 B. & S. plain.
No. 6-A Bryant internal.

No. 1 LeBlond cutter grinder.
Type "DE" Hisey-Wolf internal.
No. 11 B. & S. plain grinders.
Plain emery wh'l stand with column.

SHAPERS AND PLANERS.

36" (widened to 48) x 16' Gray heavy
pattern spur geared planer, with
two rail heads and side head on
front housing, arranged for motor

dr. with 15 h.p., 220 v., 3 ph., 60 cy.
16" Hendey friction, (2).
22"x 22"x 5 Putnam planers (2).

METAL CUTTING TOOLS AND SQUARING SHEARS.

Higley cold saw.

3" new Davis cutting-off machine.

GEAR CUTTERS AND HOBBER.

26" & 36" No. 3 Brown & S. auto.
No. 18 G. & E. vert., for spur & spiral.

No. 13 Brown & Sharpe auto.
No. 12 B. & S., bevel.

MISCELLANEOUS.

Boring mill, 54" Bullard vertical.
2 swivel hds., rapid traverse, ar-
ranged for belted motor drive.
Centering mchs., sgl. sp. Cadillac (2)

Cock grinder, 4-spindle No. 2 Tur-
ner automatic.
Hammer, Quickwork body hammer.
Tapper, No. 2-X Garvin vertical.

SECOND-HAND MACHINERY

FOR SALE BY

McDonald Machinery Co.,

1531-33 N. Broadway, St. Louis, Mo.

Clock, electric time system.
Demagnetizer, Walker.
Drills, Leland-Giff'd 2-3 sp., h. s., b. b.
Drill, Detroit 5-spindle horizontal.
Drill, Gardam 12-spdl. adjustable.
Drills, Demco, H. & W., Kokomo
1-spdl., Sipp 2-spdl., h. s., b. b.
Drills, 20", 24", 34" b. g. & tapping.
Furnace, Holcroft 92 k. w. annealing.
Gear hobbers, Schuchardt & S. 24".
Gear shaper, Fellows 36".
Grinders, P. & W. 14" vertical sur-
face; 4 Ott 5"x18"; Landis 12"x48".
Hack saw, 4x4, 6x6 and 8x8 h. s.
Lathes, Davis 22"x10', Bridgeford
27x9, Walcott 18x8, q. c.; Porter-C.
Pipe mche., Jarecki 6", dies & cut-off.
Planers, Pond 42"x42"x21', 2 heads.
Punch presses, Bliss No. 2, double
crank; Rockford No. 3, o. b. i.;
Bliss Nos. 18 & 20; Niagara No. 3.

Milling machines, Kempsmith No. 2;
Ohio No. 29 pl.; Knight No. 1, vert.
mill & drill; Becker "SD" vertical,
rotary table, 17200 lbs.; Cin'ti No. 3
pl.; Amer. No. 1, univ.; Rockford
1, universal; B. & S. 1, Ohio 34.
Punches, Felber 1" in 1", and slitt.
shear; Scully, 20" throat, 1" in 1".
Screw machine, Gridley 1-spdl. 24"
auto.; Cleveland 1, auto.; P. & W.
No. 2, hand; Foster No. 3 hand;
Woods No. 2 tilted turret head;
Bardons & Oliver No. 7.
Shapers, 26" open side planing; 15"
Smith & Mills; 15" Kelly; 16"
Milwaukee; 24" Walcott; 16"
Steptoe; 24" Barker.
Shears, 60" thrt. rotary slitting, (2).
Tapping mche., Garvin No. 2 auto.
Welders, 20 k. w. spot, Toledo, (2).
Welders, butt, Federal, 1" rds.

FOR SALE BY

The O'Brien Machinery Co.,

113 N. Third St., Philadelphia, Pa.

Boring machine, 36" Bullard, turret
head, vertical.
Die sinker, No. 2 Pratt & Whitney.
Die sinker, No. 3 Pratt & Whitney.
Die sinker, No. 4 Pratt & Whitney.
Drill, 32" Aurora, motor driven, tap-
ping attachment.
Drill, 28" Cincinnati Bickford, geared
box drive.
Drills, 28" Cincinnati, tap. att. (2).
Drill press, D-1 Colburn heavy duty.
Grinders, foundry, Norton heavy
duty, (2).
Hammer, 4000 lbs. Chambersburg
steam drop.
Hammer, 2500 lbs. Chambersburg
steam drop.
Hammer, 1500 lbs. Chambersburg
steam drop.
Hammer, 1000 lbs. Chambersburg
steam drop.
Hammer, 600 lbs. Cham'burg st. d.
Hammer, 1500 lbs. Erie sgl. frame st.
Hammer, 1000 lbs. Niles-Bement-
Pond, double frame.
Hammer, 1000 lbs. Billings & Spencer
board drop.
Hammer, Bement-Miles, 300 lbs.
Lathe, 22"x11' Lehmann, geared
head, taper attachment.
Lathe, 24"x10' American, taper att.
Lathe, 28"x25' Pond.
Lathe, 28"x30' Harrington.
Lathe, 20/40"x10' Rahn-Larmon ex-
tension bed gap.
Milling machine, Newton combi-
nation circular milling machine
and saw for structural work.

Lathe, 27"x10' LeBlond, with turret
attachment.
Milling machine, No. 3 Becker univ.
Milling mche., No. 4B Becker vert.
Pipe machines, 2", 4", 6", 8" & 12"
Oster, Cox, Williams, Eaton-Cole
& Burnham and Jarecki makes,
belt or motor driven, comp. stock.
Planer, 36"x36"x12" Woodward &
Powell, motor driven, 3 heads.
Planer, 36"x36"x24", Bement, 4 hds.
Press, No. 34 Toledo gr. str. side.
Press, No. 73, Bliss trimming press,
with side shear.
Presses, Nos. 18, 19 and 20 Bliss.
Press, Chambersburg motor driven
trimming.
Punch and shear, No. 3 Hilles & J.,
dbl. end, motor dr.; punch end,
42" thrt., cap. 1 1/2" thru 1"; shearing
end, 36" thrt., cap. 1" plate, 3 1/2"
round, 7"x1 1/2" flat, 5"x5"x 1/2" angle.
Punch and shear, Fels combination;
punching cap. 1" thick; shearing,
2" rd., 2 1/2" squares, 6x6x 1/2" angles.
Radial drill, 5' Pond, motor driven.
Radial drill, 5' Bickford universal.
Saw, Newton No. 2 cold saw.
Saw, Espen Lucas No. 10 cold saw.
Shaper, 24" American.
Shaper, 24" Steptoe, back geared.
Shapers, 12", 14", 16", 21" and 24"
stroke, assorted makes.
Shaper, 3 Bement-Miles massive
heavy duty, traveling head.
Turret lathe, flat, 3"x36" Jones & L.
Turret lathe, No. 6, Bardons &
Oliver, 2 1/2" w. f. cap., cabinet base.

SECOND-HAND MACHINERY

FOR SALE BY

Marr-Galbreath Machinery Co.,

58 Water St., Pittsburgh, Pa.

Air compressor 4"x5" Caldwell, 2 cyl.
Angle & bar bender, No. 9 Buffalo.
Angle rolls, K. & R., 6x6x4".
Arbor presses, Nos. 00 & 1 Atlas (5).
Flowers, pos. pressure, 5" outlet.
Bolt cutters, 1", 1 1/2", 2", 3" & 4".
Bolt cutter, 1 1/2" Reliance, dbl. head.
Boring mills, 51" Baush; 96" Pond, 2 h.
Boring mill, 42" Colburn 2 hds., mtr.
Boring mills, Rockford, 2" & 3" bar.
Brake, 10" x 16 ga. Chicago, steel, hd.
Brake, 8" x 20 ga. Robinson, hand.
Brake or press, 10" Robinson, toggle.
Bulldozers, Nos. 1, 4, 5 & 7 W. W.
Bulldozer, No. 7 Ajax.
Compressor, 10x10" Sullivan, belted.
Comp'r, 2500 cu. ft. L. D. G., a. c. mtr.
Crane, 40-ton Morgan, 67' span, 4
motors, 330 volts, d. c., new.
Cutting-off mch., 6" Newton, int. m. d.
Drill, radial, 5" Prentice, t. a., m. d.
Drill, radial, 5" Western, hy., d. c. mtr.
Drill, radial, 4" American, gear box.
Drills, radial, 3", 4" & 5" Bickford.
Drill, 8-sp. Baush, rd. hd., belted.
Drill, heavy gang, 4-sp., 12' table.
Drills, 36" Hoefler; 24" Aurora, s. h.
Drill, 36" Barnes, sliding hd., b. g.
Drill, 22" Aurora upright.
Exhausters, No. 8 Buffalo.
Forging mch., 1 1/2" Acme, iron bed.
Forging machine, 3" Acme, steel bed.
Gear cutter, No. 11 universal Dwight
Gear cutter, No. 3 S. & C., auto. 1x1".
Gear hobber, No. 4 Farwell, A-1.
Generator, 100 k. w., 240 v., d. c., con-
nected to horiz. steam engine.
Gen'r, 500 k. w., 3/60/2300 to turbine.
Generator, 85 k. w., 240 v., d. c., con-
nected to horiz. steam engine.
Grinder, No. 60 Heald internal.
Grinder, plain cyl., No. 12 Modern.
Grinders, No. 1 Cinti univ., c. & t.
Grinder, 20" Taylor & Fenn, wet tool.
Grinder, Yankee drill, style A.
Hack saw, No. 7-KC Atkins, 8x8.
Hammer, 100 lb., single fr., steam.
Hammer, 2000 lb. Erie, single frame.
Hammers, 40, 80, 100 lbs. Bradley.
Hammer, 125 lb. Bradley upr. strap.
Keyseater, No. 2 M. & M., with cut.
Lathe, 42" x 32" Am. grd. hd., m. d.
Lathe, 38" x 16" New Haven, rsg. blks.
Lathe, 36" x 14" Alliance, g. h., m. d.
Lathe, 24" x 13" Chard, q. c. g., t. a.
Lathe, 24" x 10" Pgh., q. c. g., t. a.
Lathe, 20" x 6" Monarch, q. c. g.
Lathe, 18" x 12" L. & S., q. c. g., t. a.
Lathe, 18" x 10" Porter, s. b. g., c. r.
Lathe, 18" x 8" Lodge-S., g. h., pan.
Lathe, 16" x 8" Bradford, pl. change.
Lathe, 16" x 6" Fiather, taper att., ch.
Lathe, 15" x 6" South Bend.
Lathe, 14" x 6" Monarch, plain change.
Lathe, 14" x 6" Am. brass lathe, ck.

Lathe, 13" x 6" South Bend, m. d.
Lathe, 12" x 8" Reed-P., g. h., s. p. d.
Lathe, speed, 11" x 4" Prentiss, t-rest.
Miller, No. 3 1/2 Fox, hand, 24" x 6" x 14 1/2".
Miller, No. 0 1/2 Cin. pl., 18" x 6" x 15".
Miller, No. 3 LeBlond, pl. ind. hd.
Miller, Hendey Lincoln No. 2 1/2.
Miller, Knight duplex, tbl. 8 1/2" x 32".
Miller, No. 0 Kempsmith universal.
Miller, vertical No. 0 & 1 Bickett.
Miller, vertical, Becker "C" & 2.
Miller, bench, No. 3 Burke.
Millers, hand, Whitey, (2).
Motors, 3 1/2 h. p., 220 volts, d. c.,
450/1800 rev., (2).
Motor, 2 h. p., 1/60/110/1200.
Pipe machines, 8", 6", 2" Oster.
Planer, o. s., 72" x 72" x 18", 3 hds., m. d.
Planer, 48" x 48" x 10" Pond, 2 hds.
Planer, openside 42" x 42" x 16", 3 hds.
Planer, Powell, 42" x 42" x 16", 4 hds.
Planer, 26" x 26" x 8" Niles, 1 head.
Planer, 24" x 24" x 5" New H., 1 hd.
Press, 77 1/2" Bliss, 12" stroke, tie rod.
Press, No. 5 Toledo, o. b. i., plain.
Press, No. 2 V. & O., o. b. i. plain.
Press, No. 10 Bliss o. b. i., bench.
Press, No. 11 Perkins, pl. trim., 4" str.
Press, No. 59 Toledo, side shear.
Press, No. 6-A Bliss, dbl. crank, tie
rod, with side shear, new.
Press, No. 25 Clevel'd, horning. pl.
Press, No. 82 Consolidated horning.
Punch, No. 124-A Niagara, 15" t., 1 1/2" x 1 1/2".
Punch & shear, No. 51 Beloit.
Punch & s., No. 2 L. & A., 30" tht., a. j.
Punch & sh. arch., d. c., 10" tht. 1 1/2" x 1 1/2".
Punch & shear, 14" & 72" throat.
Riveter, 1" Shuster, style A.
Riveter, 80-A Grant, cap. 4".
Riveter, Allen, jaw, 36x20x1 1/2" rivets.
Riveters, 3-A & 5-A High Speed.
Saw, Burke, 12" blade.
Saw, cold, No. 18 Wagner, 16" saw.
Saw, cold, No. 11 1/2 Higley, 14" saw.
Screw mche., No. 2 W. & S., pl. hd.
Shaper, 25" Smith & Mills, b. g.
Shapers, 24" G. & E. old style, good.
Shaper, 16" Cincinnati, b. g.
Shear, single end, 8" throat, cap. 3 1/2"
round, motor drive, new.
Shear, Quickwork, Nos. 3 & 6 m. d.
Shear, Niagara 16-A ring & circle.
Shear, rotary, 1 1/2" Lennox, 8" gap.
Straightener, No. 2 Kane & Roach.
Testing mchs., 100,000, 200,000 lbs.
Tumb'l'g barrel, Globe, 18" x 15", new.
Turret, 24" Gisholt, 4 1/2" h. s., t. a.
Turret, vert. 30" Bullard & Colburn.
Turret lathe, 2x24" J. & L.
Turret lathe, No. 1 Bardons & O.
Turret lathe, 28" Gisholt, t. a.
Upsetter, 3" Acme, steel bed, A-1.
Valve mche., 28" Pottstown, 3-w. m. d.
Valve tapper, 4" Pottstown, 3-w., m. p.

SECOND-HAND MACHINERY

FOR SALE BY

Kemp Machinery Co., 215 N. Calvert St., Baltimore, Md.

Air compressor, National, 3 cylinder vertical, 100 cu. ft.
Broaching machines, two No. 1 and one No. 0 Lapointe.
Cut-off saw machine, Greenlee, power feed, heavy.
Grinder, edge or guide bar, 60" Springfield, practically new.
Grinder, Blanchard No. 16, floor, motor drive type.
Grinder, plain, No. 5 Brown & Sharpe, cone type.
Millers 12" Cincinnati plain manufacturing, (2).

Also 200 other Machine Tools of various types.
Send us your inquiries.

FOR SALE BY

A. M. Stoehr Machinery Co.,

560 W. Adams St., Chicago, Ill.

Bolt cutters, 3 & 6-spindle Acme.
Boring mills, 42" Baush; 54 & 60"
Niles; all have 2 heads; and others.
Compressors, 12 different sizes.
Drill presses, single spdl., L. & G.;
2-spindle H. & W.; 4-spdl. Foote-
Burt; 4-spdl. Barnes; 22" Rockford.
Gear hobbers, cutters; No. 12 Harber-
C., 45" & 60" G. & E.; 36" Fellows
gear shaper, and others.
Grinders, No. 3 LaSalle plain and
surface; 3x18" Norton, and others.
Lathes, 18x8 Barnes, hvy. duty; 19x8
LeBlond, q. c. g.; 16x8 Flather; 15
& 24 spinning, and others.
Milling mchs., No. 25 Becker plain;
No. 6 Whitney; No. 0 Rockford pl.;
No. 2 Thurston dieing, & others.
Oil extractors, centrifugal, (8).

Pipe machines, 6" Jarecki.
Punch presses, No. 16 Bliss horning;
and others.
Punch & shears, No. 3 Long & A.,
d. e., 4" thru 1 1/2"; No. 14 W., d. e.,
15" throat. No. 1-C New Doty,
and others.
Riveters, No. 4-A & No. 3-A High
Speed; No. 1 Townsend; No. 1
L. & A., 1/2" capacity; and others.
Saws, 9x9 Sterling high speed; 12"
band, and eight others.
Screw machines, Nos. 2 & 3 Foster
(12); Nos. 52 & 53 Acme, others
plain and automatic.
Shears, Rock River alligator, 14".
Tapper, R. & S., 1/2" capacity.
Welders, both spot and butt.
Wire straightening machines, (5).

FOR SALE BY

McCoy-Brandt Machinery Co.,

210-14 Penn Ave., Pittsburgh, Pa.

Bending roll, 8' x 1/2", drop end.
Bending rolls, 16' x 3/4" Wickes, m. d.
Bolt cutter, 2" Acme.
Bolt cutter, 3" Acme.
Boring mill, 36" Bullard, rapid prod.
Boring mill, 51" Baush, 2 heads.
Boring mill, 6" bar, Niles horiz.
Bulldozers, Nos. 25 & 30 W.-W.
Drills, radial, 5' Prentice, s. p. d.
Forging machine, 31" Acme, steel.
Forging machines, 2" and 3".
Gear generator, bevel, 8" Gleason.
Grinder, No. 4 Gardner, double disc.
Hammer, 1000 lb. Niles, sgl. fr. stm.
Hammer, 1800 lb. Chambersburg
steam drop.
Lathe, No. 5 Rivett precision, tur., etc.
Lathe, 14" x 6" Hendey, grd. hd., m. d.
Lathe, 16" x 10" L. & S., cone, taper.
Lathe, 18" x 12" Hollingworth, q. c. g.
Lathe, 24" x 26" American, q. c. g., m. d.
Lathes, 28" x 12" Putnam, h. d.
Lathe, 30" x 18" L. & S., m. d., t. a.
Lathe, 36" x 20" Sidney, h. d., q. c. g.
Lathe, 40" x 25", cone, cheap.
Millers, horiz., Nos. 3 & 5 Cincinnati.
Millers, Nos. 1 & 2 Cleve. pl., s. p. d.

Miller, vertical, No. 2 B. & S., m. d.
Millers, Nos. 0, 1 1/2, 2 & 3 plain, cone.
Millers, Nos. 8C and 6 Becker vert.
Miller, No. 6 Whitney, hand.
Nut tappers, 10 spdl. Natl., cap. 1 1/2".
Pipe machines, 12", 10", 8", 4" & 2".
Planer, 30" x 30" x 8" N. B. P., 1 head.
Planer, openside, 96" x 72" x 24" D. & H.
Punch, multiple, 72" bet. housings.
Rolling mills, 12" bar & 16" reduct.
Screw machines, No. 0 Brown & S.
Shaper, 24" Hollingw' th, b. g., crank.
Shr., angle, H. & J., cap. 6" x 6" x 1".
Shear, H. & J., cap. 90 x 1 1/2" plate.
Shears, gull., cap. 2 1/2" and 2" and 1".
Shear, splitting, 24" tht., Ryerson, 1/2".
Shear, rotary bevel, Lennox, cap.
1/2" plate.
Straightener, No. 2 Abramson.
Straighteners, Nos. 3 & 4 K. & R.
Straighteners, No. 1 K. & R.
Testing mche., 200,000 lb. Riehle.
Testing mche., 100,000 lb. Riehle.
Turret lathe, 3" x 36" J. & L.
Turret lathe, 24" Gisholt 64", h. a.
Turret screw mches., No. 0 Foster.

SECOND-HAND MACHINERY

FOR SALE BY

A. D. White Machinery Co., 108-114 N. Jefferson St., Chicago, Ill.

BORING MILLS.

- 10-16' Pond extension mill, 2 heads, motor drive.
- 6' Pond, 2 heads, motor drive.
- 51" Niles, 2 hds., belt drive, rebuilt.
- 36" Niles, 2 heads, belt drive.
- 30" Builard, 1 swivel turret head.
- 24" Builard vertical turret lathe.
- 24" bar Binsse horizontal mill.

DRILL PRESSES.

- 36" Cincinnati, tapping attachment.
- 36" Aurora, b. g., sliding head.
- 28" Hamilton, b. g., sliding head.
- 28" Aurora, b. g., sliding head.
- 24" Cincinnati, comp. table.
- 20" Barnes, b. g., tapping attach.
- 24" Barnes all geared, 2-spindle.
- 36" American sensitive radial drill.
- 60" Prentice radial drill.
- No. 2 Foote-Burt gang, 4-spindle.

GRINDERS.

- 6"x32" Norton, excellent condition.
- 14"x72" Norton, rebuilt.
- 16"x48" Landis crank pin.
- 16"x96" Landis plain.
- No. 75 Heald internal, (2).
- No. 24 Bath universal grinder.
- Pratt & Whitney vertical surface.
- No. 34 Van Norman auto. ball race.
- 18" disc grinder, pl. & univ. tables.
- Several tool and cutter grinders.

MILLING MACHINES.

- No. 3H LeBlond, vertical attach.
- No. 3 Kempsmith pl., excell't cond.
- No. 3 Cincinnati plain, rebuilt.
- No. 2 Cincinnati plain, rebuilt.
- No. 20 Ohio plain, rebuilt.
- No. 1 Newton slab, 65" table feed.
- Nos. 2B and 2B heavy Brown & Sharpe, single pulley drive, plain.
- No. 34 Pratt & Whitney duplex.
- No. 3 Cincinnati high power vert.
- No. 5B Becker vertical.
- No. 6 Becker vertical, 60" feed.
- No. 25 Becker plain (3).
- No. 0 Rockford.
- No. 3 Pratt & Whitney die sinker.
- No. 6 Whitney hand (3).

LATHES.

- 14"x 6' Whitcomb-Blaisdell, c. rest.
- 18"x 7' Chard dbl. b. g., rebuilt.
- 20"x 8' Lodge & Shipley, grd. hd.
- 20"x 8' Hamilton, dbl. b. g.
- 20"x10' American geared hd., q. c.
- 22"x10' Davis dbl. b. g., quick chge.
- 24"x10' Putnam heavy lathe.
- 38"x14' Fifield, rebuilt.

PRESSES.

- No. 1 Consolidated inc., 14" stroke.
- No. 2 Consolidated inc., 24" stroke, and extra high die space.
- No. 2 Amer. Can. inc., 24" stroke.
- No. 2 Consolidated inc., 2" stroke.
- No. 6 American Can combination geared, 6" stroke, 94" die space.
- No. 69 Stoll st. side, grd., 8" stroke.
- No. 55 Adiance dbl. crank, 3" str.
- No. 42 Robinson, geared, 2" stroke.
- No. 666 Toledo embossing press, 1000 ton pressure.
- No. 1694 Toledo toggle drawing press, used 8 months.

SCREW MACHINES.

- 1-1/2" Cleveland auto., serial 30000, double cross slides, (5).
- 2" Cleveland auto., serial 26302.
- No. 1 Garvin hand, 1" cap.
- No. 3 Superior hand, 1 5/16" cap.
- No. 4 Milholland hand, 1 1/2" cap.
- Kent Owen hand, 1 1/2" cap.
- Hartford auto., cheap.
- Cleveland auto., cheap.
- 14"x18" Pratt & Whitney hand, with quantity of equipment.

TURRET LATHES.

- 3"x36" Jones & Lamson.
- 21" Gisholt, late type.
- 24" Gisholt, 64" hole in spindle.
- 20" Fay & Scott universal turret.
- No. 3 Pratt & Whitney turret lathe, 3" hole in spindle.
- No. 3 Warner & Swasey Fox lathe.
- 18" Springfield Fox lathe.
- 16" Drees Fox lathe.
- 18" Amer. Tool & Mch. Co. Fox lathe.
- 21" Reed turret lathe.
- 54"x10" Potter & Johnston.

MISCELLANEOUS.

- Bolt cutters, 2", 3 1/2", 4".
- Brake, 6' Robinson, 16 ga.
- Gear shapers, No. 6 Fellows.
- Hammer, 80 lb. Bradley, helve.
- Keyseater, No. 0 Mitts & Merrill.
- Pipe machine, 4" Saunders.
- Planer, 30"x8' Ohio, heavy pattern.
- Planer, 36"x36"x15' Betts, 2 heads.
- Planer, 58"x56"x14' Gorton, rev. motor, 4 heads, new.
- Punch, double end, Queen City, 4" in 15" throats.
- Shear, No. 16A Niagara, ring & circle.
- Slitter, gang, No. 1 American Can.
- Surface plate, 24"x48".
- Thread roller, No. 119 Bess, screw c.

Send for latest list.

SECOND-HAND MACHINERY

FOR SALE BY

J. L. Lucas & Son, Inc., **3 Fox St., Bridgeport, Conn.**

PRESSES.

Surplus stock of large manufacturing plant. All in excellent condition.

50—No. 61 Bliss, 4" stroke.....	\$225.
2—No. 62 Bliss, 6" stroke.....	275.
7—Waterbury-Farrel dial presses, 4" stroke.....	200.
10—C. & M. Farrel type dial presses, 3" stroke, weight 1200.....	200.
80—6" or 8" stroke, weight 2500 lbs.....	250.
60—6" or 8" stroke, with ratchet dials, weight 2500.....	300.
20—Reinforce swaging machines.....	750.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,
1211-1223 N. 12th St., **St. Louis, Mo.**

PRECISION TOOLS.

- 14—No. 3 —7" swing Stark Bench Lathes.
- 1—No. 4 —8" swing Stark Bench Lathes.
- 1—No. 3 —Langelier Swaging Machine.
- 1—No. 3 —Langelier Swaging Machine.
- 1—No. 1 —Dayton Swaging Machine.
- 4—G. W. Heath Automatic Chasing Machines.

LATHES.

- | | |
|----------------------------|------------------------------|
| 15"x 7' Carroll-Jamieson. | 26"x12' Putnam. |
| 15"x 6' Monarch, q. c. g. | 26"x12' Bridgeford. |
| 20"x10' Rahn & Mayer. | 26"x16' Whitcomb-Blaisdell. |
| 20"x10' Lodge & Shipley. | 32"x16' F. E. Reed. |
| 17"x 7' Oliver heavy duty. | 44"x24' Pond, triple geared. |

PLANERS.

- | | |
|----------------------------------|-------------------------------|
| 24"x24"x 6' Powell. | 36"x36"x10' Flather, 2 heads. |
| 30"x30"x 8' Cleveland open side. | 42"x42"x16' Powell, 3 heads. |
| 32"x32"x10' Cincinnati, 2 heads. | 48"x48"x14' Gray, 2 heads. |

DRILLS.

- | | |
|----------------------------|---------------------------|
| 20" Champion. | 4-spindle Henry & Wright. |
| 22" W. F. & John Barnes. | 4-spindle Avey. |
| 24" Aurora, sliding head. | 4' arm Bickford radial. |
| 3' Canedy-Otto post drill. | 5' arm Pond radial. |

MILLING MACHINES

- | | |
|-------------------------|-------------------------|
| No. 14 Rockford plain. | No. 3 Cincinnati plain. |
| No. 14 Brown & Sharpe. | No. 4 Cincinnati plain. |
| No. 1 Knight vertical. | No. 12 Kempsmith. |
| No. 3 Oesterlein plain. | |

GRINDERS.

- | | |
|-------------------------|----------------------------------|
| Schmidt auto. cylinder. | No. 50 Gardner, disc. |
| 5"x18" Ott. | No. 16 Brown & Sharpe, plain. |
| No. 1 Fraser, surface. | 8" Heald rotary, magnetic chuck. |
| 30"x84" Diamond, face. | Washburn twist drill grinder. |
| No. 60 Heald, cylinder. | |

MISCELLANEOUS.

- | | |
|---------------------------------------|--|
| Acetylene generator, 100 cu. ft. cap. | Punch and shear, 4 in. |
| Air compressors, (12). | Punch, No. 7 Long & A., 4" throat. |
| Belt lacer, Peerless. | Riveter, model A, Shuster 2". |
| Bolt cutter, 2" Standard. | Screw machine, 3"x36" Jones & L. |
| Boring mche., hor., No. 2 P. & H. | Screw machine, 2"x24" Jones & L. |
| Buffing lathe, 5 h. p. Reliance, | Screw mche., 1 1/2" Smurr & Kamen. |
| motor driven, 3 ph., 60 cy., 220 v. | Screw machines, 1/2" Pratt & W., (2). |
| Bulldozer, 75-ton Lorie hydraulic. | Squaring sh., 62", 18" gap, No. 10 ga. |
| Gear hobber, No. 1 Schuchart & S. | Tapping machine, No. 1 Garvin. |
| Gear hobber, No. 1 Farwell-Adams. | Tilted turret lathes, Nos. 2, 3 & 4 |
| Hammer, No. 2-A High Speed | Wood. |
| Keyseater, No. 2 Mitts & Merrill. | Turret lathe, Libby 20". |
| Pipe machine, 16" Bignall & Keeler. | Turret machine, 24" Greenlee. |
| Post hammer, Pettingell. | Wheel press, 90", 600-ton. |
| Punch, No. 5 Long & A., 5" throat. | Wheel press, 66", 300-ton. |

SECOND-HAND MACHINERY

FOR SALE BY

Reliance Machinery Sales Company

1405 Brighton Road,

N. S. Pittsburgh, Pa.

Arbor press, No. 24 Atlas.
Blower, No. 5 Champion, 64" outlet.
Blower, Amer. pressure, 461 cu. ft.
Boring mill, No. 44 D. & H., floor type, 3 1/2" bar.
Boring mill, No. 108 D. & H., floor type, 4" bar.
Boring mill, Binsse horiz., 4" bar.
Boring mill, Niles horiz., 4 1/2" bar.
Boring mill, 34" Colburn, 1 head.
Boring mill, 36" Bullard, vert., 2 hds.
Boring mill, 42" Bullard, vert., 2 hds.
Boring mill, 54" Bullard Maxi., m. d.
Boring mill, 60" Bullard vert., 2 hds.
Brake, 60" D. & K., 14 gauge, m. d.
Broach, Nos. 3&4 LaPointe (Hudson)
Buffer, 2 h.p. U. S. Elec., 230-3-60.
Centering mch., 4" Whiton, S. H. 2-sp.
Drill, 12" Leland-G. 6-spd., m. d.
Drill, 13" Fosdick 6-spd., m. d.
Drill, 16" Fosdick, 6-spd., m. d.
Drill, Reed 4-spindle, cap. 1".
Drill, Haush 8-spindle, No. 3 taper.
Drill, No. 13 Natco, 16-sp., No. 1 tap'r.
Drill, 21" Cincinnati, sliding head.
Drill, 24" Hoefler, sliding head.
Drill, 36" Snyder, sliding head.
Drill, No. 310 Baker heavy duty.
Drill, Model F Turner auto. turret.
Drills, 20" & 24" Foote-Burt, h. d.
Gear cutter, 36" x10" G. & E., s. p. d.
Generator set, 250 k. w. G. E., 230 v., d. c. connected 400 h. p. Erie-Ball.
Generator set, 50 k. w., 230 v., d. c. generator, connected 90 h. p.
Bruce-MacBeth gas engine.
Grinder, Oliver drill, m. d., cap. 1".
Grinder, No. 70 Heald internal.
Grinder, No. 5 Bridgeport wet tool.
Grinder, No. 3 Brown & S. univ.
Grinder, 6" x32" Norton plain.
Grinder, 12" x30" Modern plain.
Grinder, Resly No. 8-20-L, dbl. disc.
Grinder, WPL New Yankee cap. 24".
Hammer, 80 lb. Bradley cush. helve.
Lathe, 12" x 6' Seneca Falls.
Lathe, 12" x10' Davis tool r'm. q.c.g.
Lathe, 12" x10' Hendey, tie bar.
Lathe, 14" x 6' Hendey, g. h., m. d.
Lathe, 14" x 6' Seneca Falls, q. c. g.
Lathe, 14" x 8' Whitcomb-Blaisdell.
Lathe, 16" x 8' Bradford, q. c. g.
Lathe, 17" x8' Sidney, hvy. duty, q.c.g.
Lathe, 18" x8' L. & S., q. c. g., m. d.
Lathe, 18x10 Whitcomb-B. g. h., s.p.d.
Lathe, 24" x8' Hendey, tie bar.
Lathe, 24" x10' Boye & E., g. h., m. d.
Lathe, 24x10 Whitcomb-B. g. h., m. d.
Lathe, 24x12 Boye & E., d. b.g., q.c.g.
Lathe, 24" x22' American, g. h., m. d.
Lathe, 24" x20' Lodge & S., m. d.
Lathe, 26" x12' Bridgeford hvy. duty.
Lathe, 27" x26' Schumacher-B., q.c.g.
Lathe, 29" x12' B. & E., d.b.g., q.c.g.
Lathe, 30" x12' Johnson, triple grd.
Lathe, 30" x16' New Haven, p. c. g.
Lathe, 34" x12' Lelilond, triple grd.
Lathe, 36" x28' Lodge & S., m. d.
Lathe, 38" x22' Pittsburgh, t. g.
Lathe, 38" x50' New Haven, dbl. hd.
Lathe, 42" x31' Pond, triple geared.
Miller, No. 1 U. S., hd., complete.
Miller, No. 1 Knight Drill.
Miller, No. 1 1/2 American plain.
Miller, No. 2 Cincinnati, plain, v. a.
Miller, No. 3 Hendey plain.
Miller, model "C" Becker, vert.
Millers, Sellers, Lincoln type, (2).
Miller, model "H" Becker, inf. type.
Pinion rougher, 36-BM Gould & E.
Pipe machine, B. & K., 1" to 2" m. d.
Pipe machine, Merrill, 1 1/2" to 6".
Pipe machine, 8" Cox, cap. 24" to 8".
Pipe mch., 10" E., C. & B., 2 1/2" to 10".
Pipe machine, Merrill, 2 1/2" to 12".
Pipe machine, Cox, cap. 4" to 12".
Pipe machine, Cox, cap. 8" to 16".
Planer, 36" x36" x8' Cincinnati, 1 hd.
Planer, 36" x36" x8' Cincinnati, 3 hds.
Planer, 36" x36" x10' Cincinnati, 3 hds.
Planer, 36" x36" x12' Cincinnati, 4 hds.
Planer, 42" x42" x12' Cincinnati, 4 hds.
Planer, 48" x48" x12' Cleveland opendisk.
Planer, 60" x48" x20' Cincinnati, 3 hds.
Planer, 60" x60" x16' Betts, 3 heads.
Planer, 72" x72" x16' D. & H. open-side, motor drive.
Press, No. 2 Sidney, o.b.i., 2" stroke.
Press, No. 3-A Willard, o.b.i., 1 1/2" str.
Press, No. 19 Bliss, o. b. i., 2" str.
Press, No. 87 Niagara, screw.
Presses, Nos. 61 & 62 Bliss, o.b., f.w.
Press, Ferracute DD2, o. b. i., cam.
Press, No. 10 Bliss, reducing, 4" str.
Press, No. 78 1/2 Bliss straight sided.
Press, No. 305 Bliss geared, 8" str.
Press, 1 1/2 Bliss toggle drawing.
Punch, Royersford d. e., cap. 1" x 1 1/2", arch. jaw, 18" throat.
Punch, F.F. Cleveland, 48" thrt., m. d.
Punch, Wickes, 48" thrt., cap. 1 1/2" x 1".
Radial drills, 3' Bickford plain, t. a.
Radial drill, 4' Mueller pl., t.a., s.p.d.
Radial drills, 4' & 5' Prentice plain.
Radial drill, 5' American plain, t. a., motor drive.
Radial drill, 6' American pl., belt dr.
Reduction gear, Foote, 50 to 1.
Saw, Williamson metal band.
Saws, American metal swing, m. d.
Shaper, 16" Hollingworth b. g. cr.
Shaper, 20" Steptoe b. g. crank.
Shaper, 24" Milwaukee b. g. crank.
Shaper, 24" Cincinnati b. g. crank.

Our warehouse is full of bargains. What have you for sale?

SECOND-HAND MACHINERY

FOR SALE BY

The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.

Band saw, 14" Racine motor drive.
Drill, 4-spindle Barr, 4" cap.
Drill, 24" Milwaukee, b. g., p. f.
Drill, 2 & 3 spindle Sigourney.
Grinder, 5"x10" Greenfield plain.
Lathe, 14"x6" Carroll-J., q. c. g.
Lathe, 14"x5" Hendey, q. c. g., taper.
Lathe, 16"x6" Bradford, c. r.
Lathe, 16"x8" Flather, q. c. g., taper.

Miller, No. 0 LeBlond plain, p. f.
Planer, 32"x24"x6" Rockford.
Press, No. 3 Rockford, o. b. i.
Press, No. 37½ Bliss, s. s., 4" st.
Rivet spinner, 3" Grant.
Riveter, No. 4A H. S. Hammer.
Screw mche., No. 0 Foster, 9/16" cap.
Screw mche., 2x4 P. & W., pl. hd.
Shaper, 12" Smith & Mills, crank.

FOR SALE BY

Herman L. Wintner,

943-53 N. Front St., Philadelphia, Pa.

LATHES.

43"x17" 41" Bement-Miles.
37½"x14" Johnson d. b. g., q. c. f., t. a.
37"x12" Pittsburgh, heavy duty, q. c. g.
27"x12" Bullard.
26"x11" Wickes, q. c. g.
28"x10" Niles, q. c. g.,
23"x14" Hendey, q. c. g., taper attachment, oil pan, (2).

24"x14" Porter.
21½"x8" LeBlond.
20"x8" 6" Walcott, d. b. g., c. g., (2).
19"x10" Draper, patent head.
18"x 8" Davis, q. c., d. b. g.
18" x 7" Chard, d. b. g., semi q. c. g.
18"x6" to 8" lathes, (6).
And many others.

TURRET LATHES.

3½x28" Pond, triangle.
3x36" Pratt & Whitney, hollow hex.
20x7" 6" Pratt & Whitney, back grd.
20x7" Bridgeport, 28" h. s.
19"x7" Fay & Scott, back grd.
No. 23½ Garvin Monitor.

No. 3 Kempsmith.
14"x 6" Warner & Swasey.
16"x6" Johnson, back grd.
No. 3 Bardons & Oliver back grd.
14½"x5" 3" Pratt & Whitney, (2).
No. 3 Foster Kimball.

DRILL PRESSES.

42" Gang radial, s. p. speed box.
40" Barnes horizontal radials, (2).
26" Bickford radial, circular base, motor driven.
28" Rockford, q. c. g. feed, (2).

34" Barnes, s. h., geared face, comp. table.
24" Sibley & Ware, sliding head.
4-sp. type C, Taylor & Fenn, pwr. fd.
Drill presses, assorted sizes.

MILLING MACHINES.

No. 5 Cincinnati, table 9½x50½".
No. 15 Garvin, table 12x42".
No. 3 Becker-Brainard, new model, q. c. g., vertical attachment.

No. 3 Hendey-Norton, q. c. g.
No. 5-C Becker vert., rotary table.
No. 1 Milwaukee plain.

PLANERS AND SHAPERS.

12"x10"x25" Sellers planer, 4 heads.
48"x37"x9" Sellers, 2 heads.
48" Morton draw-cut shaper.
16" Potter & Johnston crank shaper.

15" Lodge & Davis shaper.
15" Potter & Johnston shaper.
14" Warren shaper.

MISCELLANEOUS.

Boring mill, car wheel, 60" Newton.
Boring, drilling and milling machine, 17½" Bement Niles horizontal.
Boring mill, No. 1 Sellers, horizontal, 2½" bar.
Boring mill, No. 3 Binsse, horizontal, 2½" bar.
Grinder, 13½"x5" Landis universal.
Grinder, disc, No. 17 Besly.
Hammer, 15 lb. Bradley helve.
Hammer, 40 lb. Bradley helve.
Hammer, 60 lb. Hotchkiss.
Hammers, 60 lb. Bellefonte upright; 2 Hammer, 750 lb. Merrill board drop.
Keyseater, 18" stroke Morton.
Pipe machine, 4" Cox.

Molding machine, 24" Taber, with roll over.
Punch presses, all sizes, (55).
Punch, multiple, No. 5 H. & J., gate pat., 86".
Punch & shear, No. 2 H. & J., dbl. end, 20" th. cap., 1½" in 1".
Punch, No. 2 H. & J., 15" th., arch. jaw, 1½" in 1".
Punch, horiz., L. V., grd., cap. 1".
Punch & shear, Industrial Wks. d. e., capacity 1½" in 1"; shearing 1½"x8".
Riveter, air, 6" gap Allen, cap. 1½".
Slotter, 14" Niles.
Tooth rounding mche., Schuchardt & Schutte.

Large assortment of General Machinery. Send for complete Price List.

SECOND-HAND MACHINERY

FOR SALE BY

M. A. Wertman, - - - **505 Superior Bldg., Cleveland, Ohio**
 Bench centers, 8"x36" B. & S. improved type, 95% new.
 Blower, No. 4 Sturtevant, 8" outlet.
 Bulldozer, No. 25 W. & W., steel frame, excellent condition.
 Disc grinder, No. 120 Gardner combination, No. A-1 condition.
 Drill, National-Acme 6-spindle, 90% new.
 Screw slotter, No. 1 Garvin rapid.
 Turret lathe, No. 6 Brown & Sharpe, wire feed, complete.
 Turret lathe, No. 2 Milholland, g. f. h.

FOR SALE BY

Tubor, Velick & Co., Inc., - - - **628-630 W. Lake St., Chicago, Ill.**
Telephones: Monroe 4199-6813. No Branches

PUNCH PRESSES.

No. 4 American Can.	Long & A. horn punch, cap. 1 1/2 x 1.
No. 5 American Can (2).	Swaine geared, (2).
No. 15 Torris Wold.	No. 5 Rockford, (2).
Perkins punch presses, 1/2" str. (20).	Bliss bench presses, (5).

DRILL PRESSES.

14" Excelsior.	Demco high-speed drills.
20" b. g., p. l., new, \$130.	Bench type drills.
20" drill presses (40), each \$40.	3' American radial.
36" Weigel.	3 1/2' Hilbert radial.
30" Reed-Prentice.	Drill presses, 1-2-3-4 sp. Avey, h. s.

MILLING MACHINES.

Nos. 2 & 4 LeBlond plain.	No. 2 Cincinnati universal.
No. 4 LeBlond univ., sgl. pulley dr.	No. 2 Cleveland universal, s. p. dr.
No. 1 Cincinnati universal.	A number of hand millers.

LATHES.

12"x5' Hendey.	18"x 6' Lehmann, q. c., (2).
13"x 5' South Bend.	24"x10' Canadian, q. c., d. b. g., (3).
16"x 6' Hamilton, q. c., (2).	22"x10' Cisco, q. c.
16"x 6' Sidney, q. c., (2).	26"x12' Prentice.
16"x 8' Canedy-Otto.	10", 12" and 14" Shepard screw cut-
17"x 9' Chard, q. c., (9).	ting, quick change.

PLANERS.

50"x30"x12' Niles-B.-P., 2 heads.	36"x36"x 7' Flather, 2 heads.
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SCREW MACHINES.

Brown & Sharpe No. 2 automatic.	Pratt & Whitney, hand, (3).
Lockers, steel, single, '1,000).	Nos. 1, 2, 3 and 4 Foster screw mchs.
No. 2 Smith, hand.	

GRINDERS.

Bath universal, with magnetic chk.	No. 14 Besly, disc.
La Salle surface, with magnetic ck.	Emery grinders, #2 and up.
Gardner No. 6 disc grinder.	

WOOD-WORKING MACHINERY.

Band rip saw, West Side.	Saw tenoners, Pettingell.
Boring mills, Andrew, (3).	Shapers, double spindle, Whitney
Moulders, 8" Yates C-4, (2).	and Fay.
Redrier.	Swing saws, Porter, (4).
Shapers, Advance dbl. spdl., 5 h. p.,	Saw table and jointer combined,
a. c. motor in base, (6).	portable.

MISCELLANEOUS.

Buffers, U. S. and Westinghouse,	Pressed steel stools, with backs.
5 h. p., b. b.	Punch press, No. 3 Thomas.
Hack saws.	Punch press, No. 4 V. & K.
Motors, 75 h. p. G. E., a. c., slip ring,	Saw mandrels, #3.
600 r. p. m., (2).	Shaper, 15" Niles.
Motors, a. c. and d. c.	Thread hobber, Pratt & Whitney.
Pressed steel bench legs, (1,000).	Time clocks, International.
Pressed steel hangers and bearings,	Woodworking machines.
all sizes.	

Leather belting. Pulleys, shafting and hangers.

SECOND-HAND MACHINERY

FOR SALE BY

Syracuse Supply Company, 314 W. Fayette St., Syracuse, N. Y.

Guaranteed NEW MACHINES in original crates at prices below list:

Automatic, 24" Gridley, single spdl.
Crucible, FD-104 Hoskins.
Drills, 21" Canedy-Otto (2).
Drills, 20" Buffalo (4).
Drills, 36" Aurora sliding head (4).
Drills, No. 11 Pratt & Whitney
multiple, 16 spindles.
Drills, No. 11 Pratt & Whitney
multiple, 8 spindles.
Grinders, No. 60 Heald (2).

Grinders, Diamond wet tool.
Lathe, 10"x5' Monarch.
Lathe, 14"x6' Monarch.
Lathe, 14"x8' Monarch.
Lathe, 16"x6' Monarch.
Lathe, 3x60 Fitchburg lo-swing.
Pipe machine, No. 70 Forbes.
Screw mchs., No. 4 W. & S. g. f. h., (3).
Straightener, No. 24 Corey.

Exceptional values in USED TOOLS:

Automatic, 14" model B., Cleveland.
Automatic, 14" model A., Cleveland.
Bolt threader, 2-spindle Acme.
Cylinder borer, 6-spindle Moline
adjustable No. 5, 36".
Drill press, 25" W. F. & John Barnes.
Drill press, 4-spindle Barr sensitive.
Drill press, 2-spindle Barr sensitive.
Lathe, 14"x6' American.
Lathe, 14"x6' Monarch.
Lathe, 16"x6' Hendey, rebuilt.
Lathe, 16"x8' American, geared
head, rebuilt.
Lathe, 16"x8' Monarch.
Lathe, 16"x10' American.
Lathe, 8x60 Fitchburg lo-swing.
Millers, 34 Bilton automatic (4).
Miller, 14 Bilton automatic.

Miller, No. 5 Becker vertical.
Miller, No. 2 Brown & S., rebuilt.
Millers, No. 3H LeBlond plain (2).
Millers, No. 4 LeBlond plain (2).
Planer, 30"x30"x16' L. W. Pond.
Planer, 60"x60"x22' Niles.
Radial, 5' Pond.
Thread miller, 10" Lees-Bradner.
Tilted turret, No. 6 Wood.
Turret lathes, No. 4 Foster (2).
Turret lathe, No. 2 Warner & S.,
hollow hex.
Turret lathe, 34x26 Pratt & Whitney.
Turret lathe, No. 24 s. g. Garvin.
Turret lathes, 3x36 Jones & L. (3).
Turret lathe, 2x24 Jones & Lamson.
Turret lathe, 21" Gisholt.
Turret lathe, No. 3 Cincinnati-Acme.

FOR SALE BY

Jones Machine Tool Co.,

528-532 E. Front St., Cincinnati, O.

LATHES.

16"x6' LeBlond, q. c. g. \$ 375.	20"x10' Lodge & Shipley, q. c. g. \$ 850.
16"x8' Hendey, q. c. g. & t. a. 975.	30"x12' Houston Stam., q. c. g. 750.
18"x10' Reed Prentice, grd. hd. 775.	26"x12' Reed, l. c., t. a. 500.
20"x14' American. 475.	30"x16' Lodge & Davis. 850.

MILLING MACHINES.

No. 14 Valley City universal. \$ 500.	No. 3 Brown & S. pl., (2), ea. \$ 800.
No. 3 Cincinnati plain. 950.	No. 3 LeBlond plain. 900.
No. 2 Cleveland, s. p. drive. 750.	No. 3 b. & S. vert., s. p. drive 1250.

RADIALS AND DRILL PRESSES.

48" American, s. p. drive. \$1200.	24" Hoefer, sta. head. \$ 175.
48" Bickford, cone drive. 475.	24" Rockford, sliding head. 225.
72" Niles, cone drive. 750.	30" Cincinnati, sliding hd., t. a. 325.
72" Dreses, motor drive. 1500.	42" Bickford, stationary head. 225.

PUNCH PRESSES AND SHEARS.

No. 2 Niagara. \$ 10.	No. 6 Whiting, single end. \$ 475.
No. 3 Consolidated, o. b. inc. 350.	No. 4-Verdin, b. g. 675.
No. 18 Bliss, o. b. inc. 175.	No. 85 Bliss, d. b. g. 1500.

PLANERS AND SHAPERS.

24"x6' Powell 1 head. \$ 600.	16" Smith & Mills shaper. \$ 325.
30"x6' Gray, 2 heads. 850.	25" Smith & Mills, b. g. 875.
48"x36"x12' Cincinnati, 2 hds. 2300.	31" American b. g. shaper. 775.

MISCELLANEOUS.

Bolt cutters, 1" & 2" Acme.	Gear hobber, Barber-C. No. 12 \$1075.
Boring mill, 42" Bullard, two heads. \$1200.	Grinder, 10x50 Norton. 475.
Chain hoists, various sizes, (50).	Hammer, steam, 800 lb. Niles. 800.
Gear cutter, 48" B. & S. No. 4. 750.	Keyseater, No. 2 Baker. 475.
Gear hobber, 24" S. & S. 550.	Mill, 36" Bullard vertical. 1500.
	Slotter, 10" Niles vertical. 800.

Write for our latest Stock List.

SECOND-HAND MACHINERY

FOR SALE BY

Clark Machinery Co., 1235-45 St. Clair Ave., Cleveland, O.

Bolt threader, 2-spindle Acme, 1 1/2".
Boring mill, No. 2 Rockford.
Chucking grinders, No. 6 Bryant.
Lathes, 14" to 24".
Millers, vertical, Becker Nos. 3-3-5.

Planer, 42"x42"x10' Gray, 2 heads.
Planer, 26"x26"x 7' Gray, 1 head.
Planer, 28"x28"x 8' Gray, 1 head.
Press, No. 69 Bliss, d. act., inc., grd.
Turrets, Warner & S. Nos. 4 & 6.

Machine tools for every purpose. Send us your inquiries.

FOR SALE BY

Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.

LATHES.

14"x 6' and 16"x8' Hendey, with taper and draw attachment, (4).
24"-40"x12' Greaves-Klusman, gap.
24"x10' Lodge & Shipley, grd. hd.
24"x10' Carroll-Jamieson.
18"x10', 16"x8' Sidney, q. c. g., taper.
18"x 8' Morris, q. c. g., dbl. g., (2).
18"x 8' Walcott, q. c. g., d. b. g.
16"x10' & 16"x8' Pratt & Whitney, taper, draw, collets, relieving att.
18"x 8' Sidney, q. c. g., d. b. g., (2).
16"x 8' Pratt & Whitney, q. c. g., taper, relieving attachment.
16"x 6' Pratt & W., q. c. g., taper.
14"x 6' LeBlond, q. c. g., taper.
Stark and Pratt-Whitney precision.
12" Lancaster engine lathe.

MILLERS.

24" Bullard vert. rapid production.
No. 2 Kempsmith universal.
No. 2 Cincinnati universal.
No. 2A Brown & Sharpe universal.
No. 2 Cincinnati plain.
Nos. 3, 5, 5B Becker vertical.
No. 4 Oesterlein rapid production.
No. 4 Cincinnati vert., sgl. pulley.
No. 2B Milwaukee universal.
24" Bullard vertical turret.
24" Colburn vertical.
No. 3 Kempsmith, gr. box fd., plain.
Gooley & Edlund, production.
24" Twin spline miller, P. & W.

PLANERS AND SHAPERS.

22"x5' Gray planer.
24" Stockbridge, sgl. pulley, crank.
16" Kelly crank.
16" Niles-Bement crank.
20" Gould & Eberhardt, b. g.
16" 20 Smith & Mills, sgl. pulley.

DRILL PRESSES.

Hilbert 3' radial, motor attached.
24" Baker Bros. heavy duty, (3).
24", 26" Aurora, Cincinnati, etc.
Sipp's, with comp. tilting table, (2).
1, 2, 3, 6 sp. Leland-Gifford, 1" cap.
6-spindle Leland-Gifford, 1" capacity.
1 spindle has tapping attachment.
Large variety 14", 16", 20" & 24".

GRINDERS.

Bryant internal and chucking, (6).
No. 1 Brown & Sharpe universal.
No. 13 Brown & Sharpe universal.
No. 2 Brown & Sharpe surface.
Cincinnati universal, 4"x57" table.
No. 2 Oakley universal.
No. 1 & No. 2 Norton universal.
4"x20" Norton cylindrical.
20" Besly and Gardner disc.
40" Besly and Gardner disc.
No. 65 Heald cylinder.
No. 120 Gardner, 4 bearings.
No. 6 Gardner, chuck & disc, 20x42" table, long, & cross feed.

SCREW MACHINES AND TURRET LATHES.

Jones & Lamson, single spindle.
No. 3 Warner & Swasey pl. hand.
No. 2 Brown & Sharpe semi-auto.
No. 6 Foster, power long. & cross.
No. 4 Warner & Swasey universal.
1" & 1 1/2" cap. Acme, b. g., frict. h.
14" Gisholt, motor drive.
Nos. 0, 1, 2, 3 Foster and B. & O.
1", 1 1/2", 2" Cleveland auto.
3 1/2" capacity Acme universal.
16"-18" Fox turret lathes, fric. hd.
New Britain auto. chucking mch.

PUNCH PRESSES AND SHEARS.

100-ton Lourie hydraulic.
21" Bliss, 3 1/2" stroke.
No. 920 Toledo double crank.
No. 3 Black & Johnson.
10' Niagara square shears, 20 ga.
1" capacity slitting shear.

GEAR CUTTERS.

No. 12 Barber-Colman.
No. 13 Brown & S., bevel & spur.
No. 1 Standard auto., (6).
Waltham automatic, (4).

MISCELLANEOUS.

Bolt cutter, 1" Landis.
Bolt cutter, 1 1/2" Geometric.
Bolt cutter, 1 1/2" Acme, double head.
Centering mchs., single and double.
Keyseater, No. 1 Baker.
Reducing or straight. rolls, 6"x36".

SECOND-HAND MACHINERY

FOR SALE BY

Beaudry Company, Inc.,
Boring bar, 3½" Pedrick.
Boring lathe, 24" Reed special.
Boring mill, 72" Niles vertical.
Grinder, tap & die cutter, Greenfield.

Oliver Building, Boston, Mass.
Grinder, portable electric, floor.
Motors, 15 h. p., 550 volt, a. c., (2).
Motor, 25 h. p., 550 volt, a. c.
Planer, 60" Gray, 4 heads.

FOR SALE BY

Vandyck Churchill Co., 52 Vesey St., New York City

HORIZONTAL BORING MILL.

One No. 2 Barrett horizontal boring mill; distance from center of bar 35"; length of feed 84"; has two facing heads; platen 44" wide, 93" long; universal table 31" wide, 46" long, 9" thick; belt drive with countershaft; 99% new; weight 18,000 lbs.

FOR SALE BY

Brownell Machinery Co., 150 Pine St., Providence, R. I.

BORING MILLS.

No. 1½ Berman & Smith horiz. drilling, tapping, boring and milling mche., 3½".
24" Bullard rapid production vertical turret lathe.

DRILLS

4' Prentice plain radial, s. p. d.
5' Reed-Prentice pl. radial, s. p. d.

25" Weigel sliding head.
3-spindle Cincinnati.

GEAR CUTTERS

No. 3 Brown & Sharpe, spur, 26x8.
No. 4 Brown & Sharpe spur, 36x9,
flywheel on cutter arbor.

No. 3-Heavy Brown & S. spur, 24x6
No. 13 Brown & Sharpe spur and
bevel, 18x4.

GRINDERS.

No. 10 B. & S. plain, 6x20.
No. 11 B. & S. plain, 4x30.
No. 12 B. & S. plain, 8x36.
No. 1 B. & S. automatic surface.
Garvin hand feed surface.

No. 2 B. & S. cutter & reamer.
No. 1 Norton tool & cutter.
No. 2 Norton tool & cutter.
Grand Rapids drill ½ to 1½.

HACK SAWS.

No. 7-K Atkins kwik-kut 8x8.

13x16 Peerless high speed.

LATHES.

12"x5' Vernon, q. c. g.
14"x6' Reed.
14"-19"x10' Carroll w. c. g., gap.
16"x8' Sidney.
16"x10' Filsmith, with gap.

20"x8' Roulsted.
20"x12' Reed.
20"x16' Berman & Smith.
30"x20' Fitchburg.
No. 1 Ames bench precision.

MILLING MACHINES.

No. 1 B. & S. plain, open belt.
No. 2 B. & S. plain, b. g.
No. 3 B. & S. plain, b. g.
No. 2 heavy B. & S. plain.
No. 1½ Brown & Sharpe universal.

No. 2 Brown & Sharpe vertical sp.
No. 1-H B. & S., vertical attach.
No. 3 B. & S., vertical milling att.
No. 3 Brown & Sharpe universal
milling attachment.

PLANERS.

48"x72"x20' Gray, 4 heads.
26"x30"x14' Whitcomb-Blaisdell.

30"x30"x8' Detrick & Harvey open
side.

SCREW MACHINES.

No. 0 B. & S. wire feed hand.
No. 2-F B. & S. hand, constant spd.
No. 4 B. & S. plain head, wire feed.

No. 6 B. & S. geared friction head.
No. 6 P. & J. automatic chucking.
3x36 J. & L. flat turret.

MISCELLANEOUS.

Broaching mche., No. 2 Lapointe.
Marking mche., No. 6 Martin, hand.
Shaper, 15" Potter & Johnston.
Slotter, 12" Bement Miles.

Swaging mche., No. 1 Langelier.
Swaging mche., No. 2 Standard.
Tapper, No. 2 Garvin vertical.

MAGNETIC CHUCKS

30—Brand new Taft-Pierce Rectangular Magnetic Chucks 8x10, for 110 v.,
d. c., suitable for No. 2 surface grinders.

SECOND-HAND MACHINERY

FOR SALE BY

J. E. Haetten & Co., Inc. - 50 Church St., New York, N. Y.

Automatics, 1-3" Cleveland model B, (40), each.....	\$ 100.
Boring mill, 42" Bullard, motor attached.....	1750.
Drill, 3" American sensitive radial.....	300.
Drill, 4" Bickford, gear box drive.....	600.
Drill, 24" Bickford s. h. drill, tapping.....	450.
Drill, 22" Barnes, all-g geared tapping and quick return.....	700.
Drill, No. 25 Foote-Burt, heavy, compound table.....	500.
Drill, 4" Niles semi-universal radial, scarcely used.....	1500.
Engraver, E-3 Keller die sinker, motor, like new.....	900.
Gear cutter, No. 4 Brown & Sharpe, 48x10, A1.....	700.
Generator, 300 k. w., Westinghouse Parsons turbo, jet condenser.....	1750.
Grinders, No. 65 Heald auto. cylinder, like new (3) each.....	950.
Grinder, 16x48 Landis crankshaft, adj. centers.....	850.
Hammer, 200 lb. Gould & Eberhardt, drop.....	250.
Lathe, 14"x5" LeBlond, automobile type.....	450.
Lathe, 21"x8" LeBlond, g. h., 220 d. c. motor, taper.....	750.
Lathe, 38"x33" Pond, l. c. g., t. g., 2 carriages.....	1750.
Miller, 30"x20"x16" Ingersoll, 4 heads, A-1.....	2000.
Miller, 48"x30"x20" Ingersoll, 2 vertical heads.....	2000.
Planer, 22"x22"x5" Gray, A-1.....	450.
Thread miller, No. 12 Lees-Bradner, like new.....	1650.
Turret lathe, 24" Gisholt, 24" bore chuck.....	350.
Turret lathe, 24x24 Jones & Lamson, serials 21000.....	1000.
Turrets, No. 6-A Potter & Johnston, serials 15,700, (2), each.....	500.
Turret, 24" Greenlee, 3 1/2" hole, belt drive, 95%.....	900.

FOR SALE BY

Allegheny Gear Co., - 1011 Empire Bldg., Pittsburgh, Pa.

Blowers, pressure, Amer. Champ.	Lathe, 18"x10" LeBlond, b. g., c. r.
Broaching mche., No. 3 LaPointe.	Lathe, 16"x8" Hendey, s. b. g., q. c., c. r., t. a.
Centering machine, No. 1 Whiton.	Lathe, 14"x6" American b. g., q. c., c. r., t. a.
Crane, locomotive, 5-ton, 35' boom.	Mill, No. 12 9" for variable sections.
Drill, 2-D Colburn, 24" swing.	Miller, No. 4 Brown & Sharpe univ.
Drill, radial, 5" Reed-Prentice.	Miller, No. 3 Pratt, hand feed.
Forging machine, 24" Ajax.	Miller, No. 5 Becker, auto. feed.
Furnaces, heat treating, annealing.	Miller, No. 6 Becker 62" cone drive.
Gear cutter No. 3A Cincinnati.	Miller, No. 4 Pedrick, portable, 12".
Gear cutter, No. 12 Brown & Sharpe.	Miller, slab, 22"x22" 8" Ingersoll.
Gear tester, No. 1 spur gears B. & S.	Motors, 1, 2, 15, 20, 30, 50 h. p., a. c.
Gear hobber, No. 12 Barber Colman.	Planer, Bickett 36"x36" 12", m. d.
Gear shapers, "Fellows" 6, 62, 612.	Planer, 30"x30", table 22"x5", 1 hd.
Gear generators, Gleason bevel, 11", 15".	Presses, Nos. 56 and 57 Toledo, trimming.
Grinder, No. 20 Bryant chucking.	Presses, No. 744 Bliss, trimming.
Grinder, Landis 12"x66" plain whls.	Sand blast, MacLeod, compl. unit.
Grinder, No. 70 Heald internal.	Saw, cold, Newton 40" blade, motor drive.
Grinders, wet tool, emery, etc.	Saw sharpener, No. 11 Cochrane-Bly.
Hammers, steam drop, 3000, 2500, 2000, 1500, 1000.	Shapers, 28" G. & E. Invincible.
Hammers, steam forging, 2500 double frame 1500, 1100, 800, single frame.	Shaper, 24" G. & E. high duty.
Hoists, portable, Crane.	Shapers, 20" Niles-Bement.
Lathe, 32"x14" Bridgeford, g. h., t. a.	Shear, No. 4 Doelger Kirsten, alligator.
Lathe, 32"x10" LeBlond, s. b. g., c. r., t. a.	Shear, No. 0 Hilles-J., guillotine.
Lathe, 26"x16" Gleason, d. b. g. c. r., t. a.	Shear, No. E Long-Alls., guillotine.
Lathe, 26"x10" Walcott, d. b. g., q. c. g., c. r., t. a.	Shear, No. 7 Hilles-Jones, comb. punch & shear.
Lathe, 26"x9" Bridgeford, rev. gr hd.	Slotter, crank, cone drive, table 25".
Lathe, 24"x17" LeBlond, b. g., c. r.	Turret lathe, 24" Gisholt.

Will quote special low prices.

SECOND-HAND MACHINERY

FOR SALE BY

Keller, - - - 70 Washington St., Brooklyn, N. Y.

TAPPING MACHINE.

Universal tapping machine, motor driven, new. Quick and accurate. Very handy for tapping up to $\frac{1}{2}$ ". Write for circular.

FOR SALE BY

W. P. Little Co., - - - West 9th & Front Sts., Cleveland, Ohio

LATHES.

26"x 9' Bridgeford, d. b. g., (new). | 32"x22' Draper, triple geared.

GRINDERS

14" Pratt & Whitney vert. surface. | No. 24 Gardner disc, vert. spindle.
No. 2 Modern universal. | No. 10 Bealy disc.
No. 75 Heald internal. | No. 6 Bryant chucking internal.

PUNCH PRESSES.

No. D. G. 5 Ferracute, o. b. i. | No. 3 Cady, Stiles pattern.
No. 76 Toledo open back. | No. 184 Holden, inclinable.
No. S. G. 55 Ferracute dble. crank. | No. E. G. 22 Ferracute, arch.

MISCELLANEOUS.

Beader, No. F-20 Yoder. | Planer, 32"x32"x14' Pond.
Boring mill, Lucas horiz., 24" bar. | Riveter, $\frac{1}{2}$ " Shuster, elastic blow.
Broach, 3-A LaPointe, Hudson. | Screw mche., No. 1 Brown & Sharpe.
Cold saw, 20" Burke. | Spline miller, 2" Pratt & Whitney.
Drill, No. 25 Foote-Burt. | Tapper, $\frac{1}{2}$ " Rickert & S., radial.
Hammer, 50 lb. Bradley, compact. | Tapper, $\frac{1}{2}$ " R. & S. on column.
Hammer, 250 lb. Morgan steam. | Turrets, No. 4 Warner & Swasey.
Keyseater, No. 0 Mitts & Merrill. | Wiring machine, No. 1 Magee.
Planer, 24"x10' Pratt & Whitney.

Partial list. Send us your inquiries. 150 other tools in stock.

FOR SALE BY

Fitzsimmons & Cole Machinery Company

1208 House Building,

Pittsburgh, Pa.

Air compressor, Ingersoll, 6x6", b. d.	Press, Ferracute P-1, 14" stroke.
Bolt cutters, 18" 2", 24", 4" Landis.	Press, No. 374 Bliss, s. s., 6" stroke.
Boring mill, 62" Bullard, b. d.	Press, wheel, 100-ton Caldwell.
Boring mill, 84" Bickford, m. d., new.	Punch & shear, Cleveland 24" thrt.,
Bulldozer, No. 25 W. & W., m. d.	14" thru 1", arch. jaw.
Die sinker, No. 3 Pratt & Whitney.	Punch & s., Pels, type RBLUEF-26.
Drill, radial, 5' Prentice, m. d.	Punch, & s., No. 7 Ryerson-Kling,
Drill, radial, 6' Prentice, s. p. d.	72" thrt., 14" thru 1", plain jaw.
Flanger, McCabe, $\frac{1}{2}$ " capacity.	Punch, hor., Cleveland, 1" thru 1"
Gear planer, 24" Gleason, bevel.	Punch, multiple, No. 5 H. & J., 10"
Grinder, 16"x48" Landis, crankshaft.	Riveter, stake, No. 6 Whiting, 48" thrt.
Grinder, 16"x52" Landis, plain.	Rolls, angle bending, 6x6x14" K. & R.
Grinder, No. 16 Blanchard.	Rolls, bending, 4' 6"x14", m. d.
Hammer, 50 lb. Mayer, upright.	Rolls, bending, 8'x14" N.-B.-P.
Hammers, 2-B-3-B, 4-B & 4-N Nazel.	Sand blast, MacLeod, 36"x36".
Lathe, 18"x 8' LeBlond, q. c. g., b. d.	Saw, hack, Atkins 6"x6", b. d.
Lathe, 30"x16" L. & S., t. a., q. c. g.	Shaper, 20" Gould & Eberhardt, b. d.
Lathe, 52"x34" Pittsb'gh, 2 car., m. d.	Shaper, 24" Gould & Eberhardt, b. d.
Lathe, turret, 5'x30" Bardons & O.	Shaper, 24" Stockbridge, b. g., b. d.
Miller, univ., Oesterlein, 25x14x10".	Shear, angle, L. & A., cap. 8"x8"x14".
Pipe machine, 12" Jarecki, b. d.	Shear, alligator, United, cap. 14"
Pipe machine, 2" Williams, m. d.	Shear, guil., No. 3 H. & J., cap. 24" sq
Planer, 36"x36"x24' Pond, 4 hds, b. d.	Shear, bevel, Ryerson 4", m. d.
Planer, 48"x38"x14' Pond, 4 hds., b. d.	Shear, rot., No. 1104 Bliss, 3/16" cap.
Planer, 36"x36"x20' Pond, 4 hds., m. d.	Shr., rot., No. 6 Quickwork, 4" cap.
Planer, 120"x90"x27' Detrick & H.	Straightening roll, 9-roll, rolls 3x42"
Planer, o. s., Cleveland, 36"x36"x16".	Straightener, beam, No. 4 H. & J.
Planer, o. s., Cleveland, 48"x48"x20".	Testing machine, 100,000 lbs. Riehle.
Press, baling hyd., No. 12-P Logemann	Welder, No. 26-A Thompson, butt.

SECOND-HAND MACHINERY

FOR SALE BY

Clinton Machinery Co., - - - 128 So. Clinton St., Chicago, Ill.

MILLING MACHINES.

No. 3H LeBlond, univ., fully equipt.
No. 3 LeBlond plain.
No. 34 Ohio plain.
No. 2½ LeBlond plain.

No. 2 Rockford, s. p. d. univ., fully equipt, slotting attach., vert. head.
No. 1B Hendey fully equipt, univ.
No. 1 Standard hand miller.

LATHES.

16"x8' Prentice, q. c. g., complete.
14"x8' American, q. c. g., swings 16½"

16"x8' American, q. c. g., swings 18½"
14"x8' Hendey, q. c. g., complete.

DRILL AND PUNCH PRESSES.

2-sp. Rockford, tapp. att. on 1 sp.
2-sp. Allen.
4-sp. Avey h. s., b. b., No. 2 taper.
Single-spdl. H. & W., b. b., h. s., (3)
24" Superior, sliding head, b. g.
20" Milwaukee, wheel & lever feed.

No. 1 Consolidated, o. b. i.
No. 1½ Consolidated, o. b. i.
No. 3 Walsh, o. b. i.
No. 3 Moore, o. b. i.
No. 4 American Can, o. b. i.
No. 36 Niagara, geared, like new.

MISCELLANEOUS.

Grinder, No. 1 Grand Rapids, compl.
Grinders, Dumore electric.
Hammer, 2A High Speed.

Screw machine, No. 1 Warner & S.
Shaper, 20" G. & E., b. g.
Shear, Niagara 30" power sq., 14 ga.

FOR SALE BY

Peninsular Machinery Co., 429-31 E. Jefferson Ave., Detroit, Mich.

LATHES.

13"x 5' Blount speed lathe.
13"x 5' South Bend, (2).
13"x 6' Willard, (3).
13"x 6' Sebastian, (4).
14"x 6' Carroll-Jamieson.
14"x 6' Reed, l. c. g., (3).
14"x 6' Reed Prentice plain turning, new, (2).
14"x 6' Prentice l. c. g. engine, (2).
15"x 6' South Bend l. c. g. engine, t. a.

16"x 8' Bradford, l. c. g.
16"x10' Monarch q. c. engine, m. d., with motor.
17"x8' LeBlond rapid product'n, m. d.
21"x11' LeBlond, all geared, (2).
21"x12' LeBlond line bearing.
26"x10' LeBlond crankshaft.
Adams short-cut lathe, with taper.
3½x36 Lo-Swing.

DRILLING MACHINES.

3-spdl. Henry & Wright, h. s., b. b.
22½" Sibley all-geared, p. f.
28" Barnes, s. h., taper.

25" Barnes 4-spindle gang.
No. 3 Baush multiple.

MILLING MACHINES.

Briggs type A.
No. 32 Kemp Smith.
No. 33 Kemp Smith plain.

No. 2 Brown & Sharpe plain.
No. 0 Rockford plain.
No. 3H LeBlond plain, cone type.

TURRET SCREW MACHINES.

14" Defiance, f. h.
2½x36 Pratt & Whitney, a. c.

No. 3 Foster f. h. turret lathes, (2).

GRINDERS AND POLISHERS.

No. 10 Brown & Sharpe plain.
No. 190 Greenfield universal.
No. 50 Heald cylinder.
20" Blount wet grinders.
No. 15 Bryant, motor drive.
No. 26 Besly, double spindle, m. d.
No. 5 Oliver m. d. drill grinder.

26" Kern, s. h., b. g., p. f., t. a.
No. 1 Lumsden oscillating, new.
No. 11 Lumsden, b. b., cup wheel, new, (2).
10x30 Frazer self-contained.
6x32 Norton plain cylinder.
No. 23-B Valley City disc, new.

MISCELLANEOUS.

Band saw, 6" Napier.
Broaching mche., LaPointe, Hudson make, ½" capacity.
Centers, bench, Brown & Sharpe.
Cutting-off mchs., 4" Hurlbut-R., (2).
Gear generator, 18" Gleason, bevel.
Gear generator, 5A Lees-Bradner automatic.
Gear hobber, No. 4 Farwell auto.

Gear shapers, No. 6 Fellows, (3).
Hammer, drop, No. 5 Williams-W.
Lapping machines, Bethel-Player, new, (2).
Metal cutter, No. 1 Gray.
Screw slotter, No. 1 National Acme.
Shaper, 7" Rhodes horizontal.
Tooth round's, 12" Rochester aut. (2).
Tumbling barrels, No. 3-S Globe, (2).

FOR SALE

Machinery & Equipment

OF THE

DOWNEY SHIPYARD

Arlington, Staten Island, N. Y.

Priced Low To Move Fast

COMPRISING

**Electric Generators—Motors—Centrifugal and
Straight Line Pumps—Air Compressors—Punches
and Shears—Machine Tools—Bolt and Pipe Cut-
ters—Forging and Bending Machines—Loco-
motive Cranes and Cars.**

**All of this equipment can be inspected at the
above named plant—Representatives always
on premises.**

WE ALSO HAVE READY FOR IMMEDIATE SHIPMENT

**Barrett Horizontal Boring Mill, 6" bar.
7' Cincinnati-Bickford Pl. Radial Drill, tapping att.
36" Gould & Eberhardt Spur Gear Cutter.
100,000 lb. Tinius Olsen Testing Machine.
Number of Double End Polishing Jacks.**

Industrial Plants Corporation

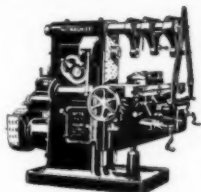
Auctioneers

National Liquidators

25 Church Street,

New York City

Like a New Miller!



Here is an opportunity to buy a **factory rebuilt Milwaukee Milling Machine** that will satisfy both the Production and Purchasing Departments.

Every machine has been completely disassembled, re-scraped, and new parts put in wherever necessary. A K & T rebuilt is thoroughly tested and carries the same accuracy guarantee as a new machine.

1B Plain	Double Overarm
1B Plain	Single Overarm
1½A Mfg.	Single Overarm
2BS Plain	Double Overarm
2A Mfg.	Double Overarm
2B Plain	Double Overarm
2B Plain	Single Overarm
3B Plain	Single Overarm
3B Plain	Double Overarm
3B Universal	Double Overarm
4B Plain	Double Overarm
2B Vertical	
3B Vertical	
4B Vertical	

Subject to prior sale.

K & T Factory rebuilt milling machines are sold only through our authorized dealers or branches.

Address: Rebuilding Department

MILWAUKEE MILLING MACHINES
KEARNEY & TRECKER

CORPORATION

5926 National Ave.,

Milwaukee, Wisconsin

Real Bargains —for Quick Sale

LATHES

14"x 6' Worcester Semi Q. C.
16"x 8' Morris Q. C.
16"x 8' Morris Geared Head.
18"x 8' Morris Q. C.
18"x 10' Morris Q. C.
21"x 8' LeBlond H.D. 220 V., D.C.
22"x 10' Morris Geared Head.
22"x 12' Morris Q. C.
32"x 17' Pond Single B. G., Cone.
36"x 18' Niles Single B. G., Cone.
60"x 26' Niles T. G., Cone.

PLANERS

30"x 30"x 12' N-B-P Rev. Motor.
32"x 32"x 10' Niles, 2 Heads.
36"x 36"x 10' Niles, 4 Heads.
38"x 38"x 12' Niles, 2 Heads.
38"x 38"x 16' Niles, 3 Heads.
42"x 42"x 12' Niles, 4 Heads.
42"x 42"x 14' Pond, 3 Heads.
48"x 48"x 20' Pond, 4 Heads, M. D.
60"x 60"x 24' Niles, 4 Heads, Belt.
96"x 72"x 42' N-B-P Rev. Motor.
10'x 10'x 36' Betts, Motor.

SHAPERS

16" S. G. Stockbridge.
16" B. G. Stockbridge.
20" B. G. Stockbridge.
26" B. G. Niles Acme.
26" Gear Box Stockbridge.
26" Bement Double Traveling Head, Motor.

RADIALS

5' Niles Universal Gear Box.
6' Niles Universal, Motor.
6' Pond, Heavy Plain, Motor.

BORING MACHINES

60"—4" Bar Niles Horizontal B & D Machine.
Ridgeway Horizontal Floor B & D Machine.
18" P. & W. Side Head Mill.
30" Colburn Turret Borer.
5" Bar Niles Floor Borer.

CRANE, PUNCHES & SHEARS, AND MISCELLANEOUS EQUIPMENT

25-Ton Niles 115' Span, 4-Motor Yard Crane and 610' Runway.
¾" Cap. L. & A. Plate Splitting Shear, Motor.
1" x 1" Cap. 48" L. & A. Punch and Shear, Motor.
¾" x ¾" Cap. 12" Throat L. & A. Horizontal Punch.
185 lb. Motor Driven Air Hammer.
2" Cox Lever Grip Pipe Machine, D. C. Motor.
No. 4-B Vert. Miller, Rotary, Becker.
No. 3 Greenard Arbor Press.

The Niles Tool Works Company

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- 1-56"x64"x18' Johnston.
- 1-51"x20' LeBlond.
- 3-36"x37' Niles Bement Pond.
- 4-36"x30' Pittsburgh Geared Hd.
- 1-32"x12' Pittsburgh.
- 2-30"x34"x12' L. & S. Sel. Hd.
- 21-26"x10' Canada.
- 15-25"x12' LeBlond.
- 5-25"x10' LeBlond.
- 1-24"x15' Chard.
- 1-24"x12' Reed Prentice Grd. Hd.
- 9-24"x11' Cisco.
- 1-24"x10' American.
- 10-21"x10' LeBlond.
- 5-20"x16' American.
- 5-20"x12' American.
- 5-20"x8' LeBlond.

MILLERS

- 3-No. 5-C Becker Vertical.
- 1-No. 4 Cincinnati Vertical.
- 3-No. 3 Cincinnati Vertical.
- 2-No. 4-B Becker Vertical.
- 3-No. 4 LeBlond Plain.
- 4-No. 4 Cincinnati Plain.
- 7-No. 3-B Hvy. Brown & Sharpe.
- 9-No. 3 Kempsmith Plain.
- 4-No. 2 B Hvy. Brown & Sharpe.
- 1-No. 28 Ohio Plain.
- 1-No. 2 Rockford Plain.
- 1-No. 2 Kempsmith Plain.

PLANERS

- 1-72"x56"x36' Cincinnati.
- 2-42"x42"x16' Rockford.
- 3-36"x36"x18' Cincinnati.
- 1-36"x36"x12' Woodward & P.
- 2-36"x36"x10' Bickett.
- 1-24"x24"x6 American.

PRESSES

- 1-96-G Toledo Double Crank.
- 1-No. 69 Stoll Geared.
- 2-No. 56 Ferracute.

BORING MILLS—Vertical

- 6-72" Gisholt.
- 2-72" Cincinnati.
- 1-62" King.
- 1-60" Pittsburgh.
- 1-53" Niles-Bement-Pond.
- 1-52" Gisholt.
- 1-42" Gisholt.
- 1-24" Bullard "New Era."

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- 1-6" Detrich & Harvey Floor Bor.
- 1-No. 1½ Giddings & Lewis.
- 7-Rockford.
- 1-3" Foote-Burt.

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- 1-No. 51½ Baker.
- 1-No. 310 Baker.
- 1-No. 24 Foote-Burt.
- 2-No. D-2 Colburn.
- 2-20" Barnes all geared.
- 25-No. 1-K 8" Henry & Wright.

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- 2-7' Western.
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- 1-20"x96" Landis.
- 1-18"-30"x96" Norton Gap.
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- 4-12"x36" Modern.
- 3-10"x72" Norton.
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- 2-6"x18" Landis.

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- 24" John Steptoe Heavy Duty Back Geared Crank Shaper.
20" Columbia Heavy Duty Back Geared Crank Shaper.
26"x26"x 8' American Tool Works, Planer, with one head on rail.
38"x38"x18' Niles Tool Works Planer, with one head on rail.

MILLING MACHINES

- No. 1 1/2 Rockford Universal, cone pulley drive, complete.
No. 2 High Power Cincinnati Universal, single pulley, complete.
No. 3-B Heavy Brown & Sharpe Plain single pulley.
No. 3-H R. K. LeBlond Plain cone pulley, latest type.
No. 3 Cincinnati Plain, cone pulley drive.
No. 2 1/2 R. K. LeBlond Plain, cone pulley drive.
No. 2 Cincinnati Plain, cone pulley drive.
No. 0 Cincinnati Plain, cone pulley drive.
No. 5 Becker Vertical Milling Machine, cone pulley drive.
Gooley & Edlund (Briggs Type) Manufacturing Milling Machine.

ENGINE LATHES

- | | |
|--------------------------------------|---|
| 30"x12' LeBlond hvy. duty, q. c. g. | 16"x 6' Lodge & Shipley, q. c. g., |
| 24"x10' Boye & Emmes, q. c. g. | Tool Room Lathe , with taper at- |
| 21"x 8' LeBlond heavy duty, q. c. g. | tach., draw-in attach. and collets, |
| 18"x 8' Lodge & Shipley, q. c. g. | latest type. |
| 16"x 8' National Machine Tool Co., | 14"x 6' Monarch, q. c. g. |
| q. c. g. | 14"x 6' Hendey, q. c. g., taper att. |

TURRET LATHES AND SCREW MACHINES

- 24" Gisholt Turret Lathe, late type, with 6 1/2" hole in spindle.
3"x36" Jones & Lamson Flat Turret Lathe, all geared head.
24"x28" Pratt & Whitney Flat Turret Lathe, all geared head.
No. 6 Warner & Swasey Turret Lathe.
No. 4 Brown & Sharpe Plain Head Wire Feed Screw Machine.
No. 2 Warner & Swasey Hand Screw Machine.
No. 1 S. P. Garvin Hand Screw Machine—NEW.

GRINDERS AND GEAR MACHINERY

- No. 55 Heald Machine Co.'s Cylinder Grinder, latest type, complete.
No. 60 Heald Machine Co.'s Cylinder, late type, complete.
No. 70 Heald internal Grinder, complete.
6"x32" Norton Plain Cylindrical Grinder.
10"x50" Norton Plain Cylindrical Grinder.
No. 1 and No. 3 Brown & Sharpe Universal Cylindrical Grinders.
No. 2 Oakley Universal Tool & Cutter Grinder.
No. 7 Gardner Ball Bearing Disc Grinder, complete with press.

RADIAL AND UPRIGHT DRILLS

- 3 1/2' American Tool Works Co.'s Triple Purpose Plain Radial Drill.
3' American Tool Works Co.'s Triple Geared Plain Radial, speed box drive.
28" Aurora Upright Drill Press, belt drive, with tapping attachment.
26" W. F. & John Barnes Upright Drill Press.
25" W. F. & John Barnes Upright Drill Press, with stationary head.
24" Cincinnati-Bickford Upright Drill Press, speed box drive, with tapping.
22" W. F. & John Barnes, Upright Drill Press.
Henry & Wright six (6) spindle High Speed Ball Bearing Sensitive Drill.
No. 1 1/2 Avey High Speed Ball Bearing Sensitive Drill.

AND MANY OTHERS. SEND FOR OUR NEW LIST JUST OFF THE PRESS.

This List is Continued on Next Page

EASTERN MACHINERY CO.
No. 412 East Pearl St., Cincinnati, Ohio

Continued from Preceding Page

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Air Compressor, 8"x8" Ingersoll-Rand, class N. E. I., horizontal, belt driven.
 Air Compressor, 16"x14" Chicago Pneumatic Tool Co. class N. S. B.
 Arbor Press and Broach, 15-ton Hercules, power, belt drive.
 Bolt Threading Machine, 1" Landis, with lead screw attachment.
 Bolt Threading Machine, two (2) spindle 1½" Landis, arranged for motor drive and equipped with lead screw attachment.
 Boring Mill, 34" Colburn vertical, belt drive, with turret head on rail.
 Broaching Machine, No. 3-B J. N. LaPointe, late type, with friction pulleys.
 Cold Saw, No. 4-B Cochrane-Bly, belt drive, all complete, with pump.
 Hack Saw, 6"x6" Racine high speed, draw cut, power.
 Keyseater, No. 2 Davis, belt drive, cap. 1/16" to 1" inclusive.
 Keyseater, No. 3 Baker Bros., capacity up to 3½" keyways.
 Mill, 24" Bullard rapid production vertical, with turret and side head.
 Press, No. 2 Michigan, power, open back inclinable, fly wheel drive.
 Press, No. 8 Jas. Lefler, power, open back inclinable, fly wheel drive.
 Riveting Hammers, Nos. 3-A and 4-A High Speed.
 Rivet Spinning Machine, 5/16" Grant noiseless.
 Shear, power square, 42" No. 242 Niagara, cap. 14 gauge and lighter.
 Shear, power square, 52" No. 252 Niagara, cap. 14 gauge and lighter.
 Tapping Machine, No. 2 Garvin automatic, belt drive, complete.

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- 1—No. 24 Bliss, 400 tons.
- 2—No. EG 54 Ferracute, 400 tons
- 1—No. 661 Toledo, 150 tons.
- 1—No. 5 Howard, 75 tons.

STRAIGHT SIDE PRESSES

- 1—No. 307 (76½) Bliss, tie rod.
- 1—No. D201 Ferracute, 200 tons.
- 1—No. 67 Stoll, tie rod, geared.
- 1—No. 59 Toledo, dbl geared.
- 1—No. 63 V. & O.

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- 3—No. 1½ Bliss, friction clutch.
- 1—301A Hend's'n, 12500 lb. f. c.

AUTO. TRANSFER PRESSES

- 2—No. 202 Bliss, 5 plungers.

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- 1—No. 202A Toledo, overh'g. fly.
- 1—No. 92B Toledo, geared.
- 1—No. 40A Williams & W., new, grd., bed 40x33, wt. 30000 lbs.
- 3—No. SG 52 Ferracute, geared, 40" between uprights.
- 1—Zeh & Hahnemann, overhang, fly, bed 41½"x16"
- 1—Henderson, bed 44"x16", wt. 5000 lbs., flywheel.

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- 1—Colburn No. 4.
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- 2—New Turner No. 3, vert. tur.
- 2—Baker No. 310.
- 1—Baush 6" Radial.
- 1—N.-B.-P. 96" Ridgeway, motor drive, plain Radial.

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- 1—Natco No. 14, rect. head.
- 2—New Baush No. 3, 21 spdl.
- 1—New Baush No. 4, 56 spdl.
- 2—Baush No. 2 multiple spindle.
- 1—New Fox No. 3, tapping att.
- 1—New Avey No. 2½, 4-sp. hi. sp.
- 3—Pratt & W. No. 11, round hd.
- 1—Moline, 4-spindle.
- 1—Foote-Burt No. 17, 6-spdl.

SCREW MACHINES—Automatic

- 16—B. & S. Nos. 0, 2 & 6 full auto.
- 14—Gridley 4-spindle, ¾", 1¼", 1¾", 2", 2½".
- 2—Gridley 4¼", 3¼" S. S.
- 2—Cleveland 1¼" Model B.
- 8—Cleveland ¾", 1¼", 2¼" A.
- 1—Cleveland 7¼" A.
- 1—New Britain 1x5 bar.
- 10—New Britain Nos. 23, 24, 33.

MILLING MACHINES

- 9—Van Norman No. ½ Duplex.
- 1—Newton Duplex.
- 1—Cincinnati 48" Duplex.
- 1—Brown & Sharpe No. 3 univ.
- 2—Hendey No. 1 universal.
- 2—Rockford Nos. 1½ & No. 2.
- 4—Cincinnati Nos. 2, 3 and 4 pl. cone drive, s. p. d.
- 4—B & S Nos. 2, 2B, 3B and 4 pl.
- 1—B. & S. No. 13-B Plain.
- 1—Cincinnati No. 3 vertical.
- 1—Milwaukee No. 1½-B vert.
- 2—Taylor & Fenn vertical.
- 12—Becker Nos. 3H, 4B, AB, 5C, C vertical.
- 2—P. & W. 4½x12 Thread.
- 8—P. & W. 6x14, 6x48, 6x80 Thread.

MILLING MACHINES—Cont.

- 4—Lees-Bradner Nos. 6, 8.
- 25—P. & W. No. 5 auto.
- 30—P. & W. No. 4, Spline.

LATHES

- 1—Lodge & S. 30"x16", grd. hd.
- 3—Putnam 42"x44", grd. hd., dbl. carriage, arr. motor drive.
- 3—Bridgeford 48x50, grd. head, dbl. carriage, arr. motor drive.
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- 1—B. & S. No. 5, 48" capacity.
- 1—Cincinnati No. 4-A, 4x48.
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- 2—C. & E. No. 36-ST, 3 and 4-spindle Gear Roughers.
- 1—C. & E. 34" Combined Spur and Bevel Gear Cutter.
- 20—Fellows Nos. 61, 6 & 615.
- 20—Gleason bevel, 6", 11" & 18".
- 1—Lees-Bradner No. 5A gear generator.

PLANERS

- 7—Putnam 26x26x8", 2 heads.
- 1—W. & P. 24x24x10".
- 2—Gray 38x38x20, 3 hds., mtr. dr.
- 1—Putnam 48x48x12", 2 heads.

GRINDERS

- 1—Brown & Sharpe No. 3 univ.
 - 1—Landis No. 2 universal.
 - 1—Queen City 14x72 plain.
 - 1—Landis 10x20 plain.
 - 7—Norton 6x32, 10x36, 16x36.
 - 1—Springfield 12x12x48 vert.
 - 4—Cincinnati No. 2, 12x36.
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 - 1—Landis 18x68 crank.
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 48"x40" Pond triple geared.
 48"x16" Putnam h. d. production.
 36"x32" Bridgeford grd. hd., q. c. g.
 30"x16" LeBlond h. d., q. c. g.
 24"x12" American, q. c. g.
 24"x 8" LeBlond, q. c. g.
 20"x10" Davis, q. c. g.

PLANERS

60"x60"x18" Pond 2-heads.
 48"x48"x20" N. B. P. 2-heads.
 48"x48"x 8" Sellers 1-head.
 36"x36"x21" Gray 2-heads.
 30"x30"x20" Wood. & Powell 2-hds.
 22"x22"x 5" Gray, 1-head.

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30" Norton.
 24" Steptoe.
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 No. 3 Brown & Sharpe vertical.
 No. 2 Brown & Sharpe universal.
 No. 5-C Becker vertical.
 No. 7-H Becker Lincoln type.
 No. 2½ Hendey Lincoln type.

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30" American, t. a.
 36" Gang.
 6" Dress.
 4" Dress.

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20"x54" Diamond wet surface.
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 16"x66" Landis universal.
 16"x36" Landis universal.
 10"x48" Landis universal.
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95-Ton Bucyrus R. R. type.
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36" x 36" x 14'

42" x 42" x 30'

36" x 36" x 16'

48" x 48" x 16'

36" x 36" x 26'

50" x 36" x 22'

42" x 42" x 26'

54" x 54" x 22'

NEW LATHES: Niles-Bement-Pond, 36"x16' heavy duty, quick change, screw cutting, triple geared, belt drive, at big reduction.

MILLING MACHINES: No. 3-B Heavy Brown & Sharpe plain, all geared head, motor drive, with motor.

No. 2-B Heavy Brown & Sharpe plain, all geared head, motor drive, with motor.

GEAR CUTTERS: (2) No. 4 Brown & Sharpe Automatic Gear Cutters, for spur gears.

BORING MILL: 60" Baush, heavy quick change, geared feeds, table 54" diam., 8" thick, D. C. motor drive, with push button starter.

LOCOMOTIVE CRANE: 15-ton Brown Hoist, 50' boom, with 42" magnet and generator.

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Open Side Planer

30"x30"x18' Cleveland

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- 1—No. 3 Heavy Brown & Sharpe Automatic Gear Cutting Machine, capacity 24"x8" (Practically New).....1800.
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- 2—No. 00 B. & S. turret forming.
- 1—No. 00G B. & S. screw.
- 1—No. 0 B. & S. Cut-off.
- 3—No. 0 B. & S. screw.
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- 5—3" Gridley, single.
- 4—3" Gridley, single.
- 3—4" Gridley, single.
- 1—3" Cleveland, single.
- 2—3" Cleveland, Model A.
- 1—2" Cleveland, Model A.
- 1—1" x 7" New Britain, bar.
- 1—6 hole Detroit Drill.

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- 1—6" P. & W., vertical.
- 1—14" P. & W., crank.
- 1—15" Hendey, pillar.
- 1—16" Smith Mills, d. b. g.
- 1—16" Whipp, 4-step cone.
- 1—16" American, motor drive.
- 1—20" Kelly, 4-step cone.
- 1—20" Smith Mills, 4-step cone.
- 1—20" Ohio heavy duty.
- 2—24" G. & E., extension base.
- 3—24" Cincinnati, b. g.
- 1—28" Queen City, cone drive.
- 1—32" Smith Mills, gear box.
- 1—26" Bement, traveling head.

Radial Drills

- 1—24" Mueller, rd. column.
- 1—28" American high speed.
- 1—42" C. O., wall type.
- 1—48" Columbia, rd. column.
- 1—60" Niles semi universal.
- 1—60" American, motor drive.
- 1—72" Cincinnati, Bickford.
- 1—72" Bickford, Universal.
- 1—72" Niles, Universal.
- 1—72" American, rd. column.
- 1—72" Bickford, Plain.
- 1—84" Reed Prentice, Plain.

Planers

- 1—24x 6 Powell Hi Speed.
- 1—24x 6 Rockford, 1 head.
- 1—24x 8 Cincinnati, gear box.
- 2—24x 8 Whitcomb, second belt.
- 4—24x10 Whitcomb second belt.
- 1—24x12 American, 2 heads.
- 1—26x 6 Gray, spur geared.
- 5—30x30x12 N. - B. - P., reversing motor drive, with control panel.
- 1—30x18 Cincinnati, Tu-Speed.
- 2—36x36x10 N. - B. - P., reversing motor drive, with control panel.
- 1—36x12 N. - B. - P., 4 heads.
- 1—36x16 N. - B. - P., 4 heads.
- 1—36x18 N. - B. - P., 4 heads.
- 1—36x36x12 Cincinnati, 4 hds., m. d.
- 1—36x12 Detrick Harvey.
- 1—36x14 Niles, gear box.
- 1—36x36x20 Woodward - Powell, 4 heads reversing motor drive with control panel.
- 1—42x42x26 Pond, reversing motor drive, with control panel.
- 1—60x12 Gleason, 1 head.
- 1—60x14 Powell extra heavy.
- 1—60x60x22 Pond, reversing motor drive, with control panel.
- 1—60x60x24 Detrick Harvey.

Turret Lathes

- 6—18" Libby Hi-Power.
- 2—4"x44" P. & W.
- 2—7/16x24" P. & W.
- 1—No. 22 Garvin Monitor.
- 1—No. 24 Garvin, G. F. H.
- 2—No. 4 Warner Swasey
- 1—No. 3 Forster, G. F. H.
- 1—No. 3 Warner Swasey.
- 2—No. 4 Millholland.
- 9—3"x26" P. & W.
- 2—24"x11" Acme.
- 1—84" Hardons & Oliver.
- 2—24"x26" P. & W.
- 1—24" Gisholt, big bore.
- 6—3x36 J. & L.
- 1—32"x24" Gisholt, M. D.

Simmons Machine Tool Corp.

NEW YORK

ALBANY

BUFFALO

149 Broadway

1212 Troy Road

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SPECIALS

Brown & Sharpe Milling Machines:—No. 3 Vertical; No. 3 Universal, with vertical attachment; No. 3-B Plain, single pulley drive; No. 2-B Heavy Plain.

Cincinnati Planers, 33"x33"x10' and 24"x24"x8'.	
Cisco Lathes—One 16"x8', q. c., 3-step; one 16"x8', 4-step.	
New Britain Automatic, 6 spindle, 18"x7'	\$1,250.
Barber Colman Gear Hobber No. 12.	1,000.
Norton Grinder, 18"x96" Plain Cylindrical.	1,000.
Gray Planers—30"x30"x16' and 24"x24"x8'.	
Schumacher & Boye Lathe, 24"x14', quick change, rebuilt.	900.
Norton Cyl. Grinder, 18"x96"	1,000.
Niles triple geared Lathe, 42"x20'	1,190.
Niles triple geared Lathe, 48"x28'	1,550.
New Haven Triple Geared Lathe, 48"x18', raised to 62"	1,250.
Niles Universal Radial, 6' with motor.	1,100.
42" Bullard Mill, 2 heads.	1,000.
No. 5 Toledo Inclined Press.	450.
3" Lucas Horizontal Boring Mill.	800.
Style A Long & A. Punch & Shear, 24"x1', with arch. jaw.	750.
No. 20 Bliss Incl. Press... \$295.	14" Smith & Mills Shaper.
20" Hamilton Shaper.	14" Kelly Shaper.

More than 300 other Machines in Stock. Low Prices.

Norton-Broadway Machinery Co., Cincinnati, Ohio

They've got to be good before we buy 'em

HAMMER, No. 12 Beaudry.

HAMMER, 200 lb. Bradley Helve.

LATHE—Crankshaft, 27" x 10' American Heavy Duty.

MILLER—Vertical, No. 3 Cincinnati, single pulley drive.

PRESS—Plain, Solid back, P-1 Ferracute.

PRESS—Plain, O. B. I., No. 19 Bliss.

PRESS—Geared, O. B. I., No. 4 R. & K.

PUNCH, S. E., 48" throat, Rock River, cap. 1 3/16"x1".

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551 W. Washington Blvd., Chicago.

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A good purchase is just as good before it's bought as it is after it's paid for. The bargain lasts long after the purchase price is forgotten. And you won't forget the price either because the next time you're interested in used machinery, you'll see J. J. McCABE first.

HERE ARE SOME OF THE BARGAINS:

15" swing x 6' Sebastian Lathe.
18" swing x 8' High Duty Lathe, Quick Change.
26" swing x 14' Niles-Bement-Pond Lathe.
36" swing x 16' High Duty Lathe, Quick Change.
48" swing x 24' bed Bement-Miles Triple Geared Lathe.
54" swing x 20' bed Pond Lathe.
110" swing x 42' Bement-Miles Lathe.

26"x 6' Niles Planer.
48"x14' Pond Planer.
72"x24' Niles Planer.

24" Gould & Eberhardt Shaper.
18" Ohio Shaper.
14" Smith & Mills Shaper.

96" Niles Boring Mill.
42" Long & Allstatter Punch & S.
800 lb. Bement - Miles Steam Hammer.
10'-8" Pyramid Type Bending Rolls.
8' Bending Rolls.
6' Bending Rolls.
1/2" cap. McCabe Flanging Mch.
No. 3 Baker Keyseater.
4 3/4" bar Niles Horiz. Boring Mill.
6' arm Pond Radial Drill.
12" Peerless Hack Saw.
5" No. 5D Saunders Pipe Mche. capacity 1 1/2" to 5" pipe.

Used factory rebuilt McCABE 2-in-1 Double Spindle Lathes:

14' bed Standard Pattern 26-48" swing raised to 32-54" swing. Internal geared Face Plate. Belt Drive.
12' bed Standard Pattern 26-48" swing; Plain Plate Belt Drive.
30' belt Standard Pattern 26-48" swing raised to 38-60" swing. Internal geared Face Plate; Belt Drive.

Two Machines in the South West:

In TEXAS—8' McCabe Bending Rolls.

In ARIZONA—McCabe "2-in-1" Double Spindle Lathe.

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GOOD USED TOOLS

PLANERS:.....	24x24x24" Cincinnati crank. 30x30x 6' Pond Mche. Tool Co. 30x30x 8' Pease. 36x36x10' Wilson, 2 heads. 72x56x14' Gray, 2 heads.
MILLERS:.....	No. 34 Ohio heavy duty, plain. No. 3 Kempsmith plain. No. 2 1/2 LeBlond plain. No. 2 Cincinnati universal. No. 2 Cincinnati vertical. No. 3 Cincinnati vertical. Model C Becker vertical. Model AB Becker vertical. No. 1 1/2 Knight vertical. Universal 2 1/2" bar.
BORING MACHINES:.....	No. 2 Rockford horizontal.
RADIAL DRILLS:.....	2 1/2" American, swinging table. 5' Fosdick universal. 6' Gang plain.
BROACHING MACHINES:	No. 1 J. N. LaPointe. No. 3 American.

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117 N. Jefferson St., Chicago, Ill.

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72"x54"x24' POND PLANER.

Two heads on cross rail, two side heads. In excellent condition.

Price for Immediate Sale

\$3,000.

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Syracuse, New York

NEW 3 PHASE MOTORS CHEAP. 3 H. P. \$57.50; 5 H. P. \$67.50

LATHES

12" x 8' Cleveland, geared head.
14" x 6' Carroll-Jamieson, new, q. c.
14" x 6' Hamilton, grd. hd., motor dr.
14" x 6' Monarch, quick change.
14" x 6' Rockford, q. c., t. a., plain.
14" x 6' Sebastian, c. r., h. d., mtr. dr.
14" x 8' Sidney, double back geared.
14" x 6' Hamilton, style B.

16" x 8' Sidney, double back geared.
18" x 10' American, quick change.
20" x 10' Hamilton, rapid production.
22" x 10' Greaves & Klusman.
24" x 24' Prentice, with raising block.
25" x 12' Sidney heavy duty, new.
27" x 8' Bridgeford, heavy duty.
8x60" & 34x60" Fitchburg, L. O. Swing.

TURRET LATHES and SCREW MACHINES

No. 4 Defiance, 1 1/2" capacity.
No. 4 Woods Tilted Turret, (2).
14" Milholland.
2x24 and 3x36 J. & L.

No. 1 Foster, 15/16" capacity, (2).
Warner & Swasey No. 2.
Warner & Swasey No. 4.
Nos. 52 & 56 National Acme auto.

SHAPERS

14" Niles, traveling head.
14" Steptoe, crank.
16" American, tool room.

16" Cincinnati b. g., motor drive.
16" O. & S. b. g. crank, new.
24" O. & S. back geared crank.

The Entire Plant of the Columbus Machine Company. Ask for List.

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Nos. 3-A & 5-A Willard inclinable.
Nos. 5 and 6 Toledo inclinable.
Nos. 14, 2, 24 & 4 Robinson, new.

Emco, bench, for radio parts.
No. 35 Niagara straight side.
Perkins, dbl. housing, wt. 4,000 lbs.

DRILLS and RADIALS

3' W. E. Gang plain.
3 1/2' Silver, sgl. pulley, gear box dr.
4' Universal Radial Drill Co. plain.
Electric drills, Black & Decker.

22", 24", 26", 28" and 32", sliding hd.
26" Barnes, sliding head, all geared.
4-spindle Reed sensitive.
Electric drills, Thor, all sizes.

MILLING MACHINES

No. 1 Kempsmith universal, new.
No. 2 Kempsmith plain, new.
No. 3 Kempsmith univ. and plain.
No. 3 Cincinnati universal.
No. 25 Becker plain, power feed.

No. 3 LeBlond, with vertical attach.
No. 2 H Brown & Sharpe plain.
Oesterlein 24x7 1/2 x 18 plain.
Briggs "A" high duty, 24x8" table.
No. 7 Becker, Lincoln type.

GRINDERS

Nos. 1 & 78 W. & M. surface.
No. 2 W. & P. 10"x30" universal.
6"x15" Fitchburg plain.
12"x36" Cincinnati universal.
16"x42" Landis universal.
36" and 66" Yates plate.
No. 70 Heald internal.

No. 60 Heald cylinder.
Schmitt cylinder grinder.
No. 3 Ohio universal, tool and cut.
No. 4 Gardner 20" double disc.
No. 10 Besly 18" double disc.
No. 20 Bryant, chucking.
Capital internal, new, 2"x2" cap.

MISCELLANEOUS

Band saw, Clark, compound.
Band saws, Napier 4"x4", 10"x10".
Bending rolls, 7' for 3" plate.
Boring mill, Colburn No. 3, tur. hd.
Boring mill, 54" Colburn, 2 hds., c. j.
Brake, 10', 18-gauge metal.
Broaching mchs, 1 and 3 LaPointe.
Positive pres. blower, No. 5 Conner.
Compressors, 6x8, 8x8 and 9x8.
Drawing tables, adjust., 42"x6" top.
Gear cutter, No. 3-26 B. & S.
Gear miller, Bilton No. 1.
Hammer, 40 lb. Bradley, helve.
Hammer, 150 lb. Standard drop.

Oil separator, Springfield.
Pipe machines, 2", 4" & 6".
Pumps, Gould triplex, 6 1/2"x8".
Punch & shear, 1 1/2"x10" throat.
Riveting machines, High Speed
Nos. 2, 3, 4 & 5-A.
Scale, 1500 lb. Toledo, dial type.
Sceleroscope, Shore type C.
Shear, 60" Peck, Stow & W., 18 ga.
Shear, No. 362 Robinson.
Shear, No. 20 Quickwork, 30" throat.
Shear, circular, Pettingell, 60" thrt.
Tapping machine, Acme 6-spindle.
Threading mche., W. & P. 2-spindle.

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MACHINERY COMPANY
COLUMBUS OHIO

Dept. H.

Let Us Quote On These Bargains

No. 00 Brown & Sharpe Automatics.
 No. 2 Brown & Sharpe Automatics.
 No. 0 Brown & Sharpe Hand Turret.
 No. 1 Brown & Sharpe Hand Turret.
 No. 2 Campbell Nibbler, Motor Drive.
 20"x8 American Geared Head Lathe.
 14x6 American Geared Head Lathe.
 36x20 Bridgeford Geared Head Lathe.
 20" Gould & Eberhardt Shaper.
 16" Milwaukee Shaper.
 14" Gould & Eberhardt Shaper.
 No. 2 1/2 Bath Grinder.
 6x32 Norton Grinder.
 No. 2 Brown & Sharpe Surface Grinder.
 Nos. 2 & 3 Wilmarth & Morman Grinders.
 No. 1-A High Speed Hammer.
 No. 4-A High Speed Hammer.
 No. 2 Mitts & Merrill Key Seater.
 36" Gould & Eberhardt Gear Cutter.
 Murchey Double Spindle Nipple Machines.

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1 1/2", 2", 2 1/2", 3" Ajax Upsetters.
 1", 4" Acme Upsetters.
 Nos. 3, 5, 7 Williams-White Bulldozers.
 30, 50, 75, 100, 200 lbs. Bradley Upright Hammers.
 60, 80, 100, 200 lbs. Bradley Cushioned Helve Hammers.
 L. & A. No. 1 S. E. Punch, 15" thr., 3" stroke, arch. jaw, cap. 1 1/2"x1".
 Cleveland E. F. Punch, 36" thr., arch. jaw, gag socket punches, 1 1/2"x1".
 Bertsch Plate Shear, 8'x1" cap., rebuilt, condition equal to new.
 Robinson & Rea Alligator Shear, capacity 5" round.
 2-Toledo No. 55 1/2 Trimming Presses, geared, belt drive.
 2-Toledo No. 57 Trimming Presses, geared, belt drive.
 1", 1 1/2", 2", 3" single spindle Threading Machines.
 1", 1 1/2", 2", 2-spindle Threading Machines.
 1" 3-spindle Threading Machine.
 No. 40 Waterbury Thread Roller.
 1", 1 1/2", 2" National Bent Tappers.
 1" 6-spindle Acme vertical semi-automatic Tapper.
 1" 8-spindle National vertical semi-automatic Tapper.
 No. 2 Kempsmith Universal Milling Machine.
 2-Brinell Hardness Testing Machines.
 No. 19, 53" Besly Vertical Spindle Disc Grinder.
 No. 3 Williams-White Rotary Riveting Hammer.
 3-Racine Power Hack Saws, capacity 6x6", 3-speed gear box.
 Cincinnati Tu-Speed heavy duty Planer, 30"x30"x14".

Donahue Steel Products Co.
 1147 So. Washtenaw Ave., Chicago, Ill.

Opportunity Knocks Again For the Conservative Buyer

Real Values in Machine Tools—

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- 72"x54"x24' Pond, 4 heads.
- 72"x72"x18' Betts, 4 heads.
- 36"x36"x24' Pond, 4 heads.
- 36"x36"x12' Woodward & P., 3 hds.
- 36"x36"x 8' Dietrick & H., openside.
- 26"x26"x 8' Pease.

Boring Mills

- 96" Niles, 2 heads.
- 2—54" Bullard Maxi.
- 2—42" King.
- 2—Blomquist & E., horiz., 3¼" bars.

Hammers

- 5000 lb. Chambersburg.
- 4000 lb. Chambersburg.
- 4000 lb. Massillon.
- 3500 lb. Massillon.
- 2500 lb. Massillon.
- 2—800 lb. Waterbury Farrell board.
- 2—600 lb. Waterbury.

Grinders

- 10x50 Norton plain.
- 8x36 Fitchburg.
- 16x48 Landis crankshaft.
- No. 2 Brown & Sharpe universal.
- No. 2 Taft Pierce universal.
- Heim's Centerless, motor drive.
- No. 4 Detroit Centerless, motor drive.
- 10x30 Webster & Perks universal.

Screw Machines

- 3¼" Gridley.
- 1¼" Gridley.
- No. 55 National Acme.
- No. 53 National Acme.
- No. 52 National Acme.
- No. 00 Brown & Sharpe.
- No. 0 Brown & Sharpe.
- 2" Cleveland Model B, New.
- 2" Cleveland Model B.
- 3¾" Cleveland Model A.
- 2¼" Cleveland Model A.
- No. 20, ¾"—¾" Cleveland Model B.
- No. 6 Warner & Swasey.
- No. 6 Foster.
- 24" Gisholt, complete equipment.
- 18" Gisholt, complete equipment.

Lathes

- 48"x21' Pond, triple grd., motor drive.
- 44"x45' Putnam, triple grd., motor dr.
- 40"x14' Alliance Geared Head.
- 32"x12' No. 3 Pittsb' gh, q.c., h.d., c.dr.
- 30"x16' Reed, cone drive.
- 30"x28' Pond, triple grd., motor drive.
- 24"x16' Whitcomb-Blaisdell, cone dr.
- 20"x14' Reed, plain change, cone dr.
- 21"x10' Boye & E., qk. ch., cone dr.
- 20"x10' Hendey Yoke Head.
- 14"x 6' Hendey, t. a., qk. ch. collets.
- 14"x 6' Hendey, t. a., draw-in attachment, reliev. attachment.

Drills

- 6' Niles Radial.
- 5' Bickford, t. a., motor drive.
- 36" Aurora, g. f.
- 4-spindle Leland-Gifford, ball bearing.
- 3-spindle Leland-Gifford, ball bearing.
- 12-spindle Baugh Drill.
- 6-spindle Foote-Burt No. 5 Taper.
- No. 2 Colburn, h. p., (New).
- No. 25 Foote-Burt.
- No. 4 Mueller Radial, s. p.

Milling Machines

- No. 4 LeBlond plain.
- No. 3 Brown & Sharpe plain.
- No. 2 Brown & Sharpe plain.
- Gooley & Edlund slab.
- 12" Cincinnati mfg. type.
- 84 Pratt & Whitney Thread Miller.
- No. 3 U. S. Hand Millers.
- No. 2—13B Brown & S., plain.
- 2 No. 2 Garvin Duplex.
- 2M—Potter & Johnston.
- 2A—Milwaukee, s. p. drive, plain.

Miscellaneous

- 50-ton 60' Span Alliance Crane.
- 4½" Acme Bolt Cutter.
- Hendey Centering.
- 36" Fellow's Gear Shaper.
- 18" Gleason Bevel Gear Generator.
- 4-Spindle Moline No. 1 Hole Hog.
- 60" Gould & Eberhardt Gear Cutter.
- 30" Schuchardt & S. Gear Hobber.
- 3" National Bolt Cutter.
- No. 20 Bliss Punch Press.

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Every Tool a Bargain

This is an exceptionally fine lot of tools,
90% being nearly new or in excellent condition

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| 24" Kelly heavy duty, bk. grd., 99%. | 36" Fellows Gear, 90 to 98%, (5). |
| 24" Smith & Mills, belt driven. | 32x32x14 Gray Planer, 2 hds., m. dr. |
| 18" Hollingworth h. d., bk. grd., 98%. | 24x24x 6' Pratt & Whitney. |
| 18" Flather, pr. down feed, 95%. | 24x24x 6' Putnam, good cond., \$150. |

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| 2-14x36 Pratt & W. vert. sur., 85%. | Nos. 70 & 75 Heald internals, 90%. |
| 2-12x36 Diamond surface, 90%. | 8" Heald, s. t., surface, 95%. |
| 2-6x32 Nortons, 85%. | No. 14-12x48 B. & S. plain. |
| 2-No. 11 B. & S. pl., s. sp. dr., late, 95%. | Nos. 4 & 6 Gardner disk, b. b., 95%. |

A Large Assortment of Tool and Cutter Grinders

Drilling Machines

- | | |
|--|--------------------------------------|
| 3 1/2" Drees Radial, cone dr., t. att. | 3-sp. Henry & W., h. s., b. b., 85%. |
| 36" Reed-Prentiss, s. h., t. a., 95%. | 4-spindle Allen, ball bearing, 98%. |
| 28" Superior, s. h., b. g., good cond. | 4-spindle 2 1/2" Barnes 80%. |
| 25" Snyder, s. h., 95%, (4). | 12-spindle Fox multiple. |

Milling Machines

- | | |
|---|---|
| No. 3 LeBlond pl., h. d., d. b. g., 90%. | No. 2 Cincinnati Automatic, 90%. |
| No. 3 B. & S. plain, cone drive, 90%. | No. 1 Becker universal, (2). |
| No. 2 B. & S. univ., cone driven, full equipment, with c. s. & vert. att. | 5-B Becker vertical, 85%. |
| No. 1-V Brown & Sharpe plain. | No. 6 Becker vertical, 80%. |
| No. 2 Clevel'd pl., s. s. dr., 95%, (4). | No. 3 Cincinnati vert., s. sp. dr., 90%. |
| No. 2 Oesterlein plain, 85%. | No. 2 Cincinnati vertical, cone drive, 98%. |
| No. 2 B. & S. cone drive, 90%. | No. 13 B. & S. mfg., 95%. |
| No. 2 Cincinnati plain. | Whitney and U. S. Hand Mill., (8). |

Presses

- | | |
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| No. 21 Bliss o. b. i., 90%. | No. 73 Bliss st. s., 20" bet. housings. |
| No. 20 Bliss o. b. i., 95%, (3). | No. 534 Max Ams, st. side. |
| No. 19 Bliss o. b. i., 95%, (2). | Cleveland straight side, 3 1/2-ton. |
| No. 41 Toledo, 90%, (2). | Double crank Cleveland, 30" between housings. |
| No. 47 Niagara o. b. i., 95%. | |

A Large Assortment of Smaller Presses

Lathes

- | | |
|--|---|
| 32x22 Draper, l. c. g., triple grd. | 16x8 Bradford, q. c. g., d. b. g., 95%. |
| 25x8 LeBlond, q. c. g., s. p. d., grd. hd. | 14x8 LeBlond, q. c. g. |
| 24x12 Boye & Emmes, q. c. g., d. b. g., 75%, raising blocks. | 14x6 Hendey, taper attach., 70%. |
| 21x10 LeBlond heavy duty, 95%. | No. 6 Warner & Swasey, 85%. |
| 16x6 LeBlond, q. c. g. | Over 100 Other Lathes. |

Screw Machines and Turret Lathes

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| 4-spindle 2 1/2" Gridley Automatic. | 3x36 2-sp. J. & L., late No., 95%. |
| 4-spindle 1 1/2" Gridley Automatic. | No. 7 Bardons & O., late No., (2). |
| 4-spindle 1 1/2" Gridley Automatic. | No. 4 Warner & Swasey, (5). |
| No. 24 New Brit'n Auto., ex. cond. (3). | No. 1 Garvins, like new, (4). |
| 3 1/2x36 Cin'ti Acme, like new, (2). | No. 2 Hd. Sc. Mchs., various makes, 12 |

Miscellaneous

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| Air Compressor, 8x8, with tank. | No. 3 1/2 Atlas and Greenerd Arbor Presses, (6). |
| Universal Saw Grinding Machine, for circular saws. | Reaudry Power Hammer. |
| Cleve. Punch & Shear, 12" throat. | Large assortment Bolt Cutters. |

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SIZE	STANDARD LIST PRICE
1 1/4"	\$28.50
1 3/8"	30.00
1 1/2"	31.50
1 5/8"	33.00
1 3/4"	34.50
1 7/8"	36.00
1 15/16"	37.50
1 15/16"	39.00
2"	40.00

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Special Discount of **40/50%**

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Made with different tips for special requirements.

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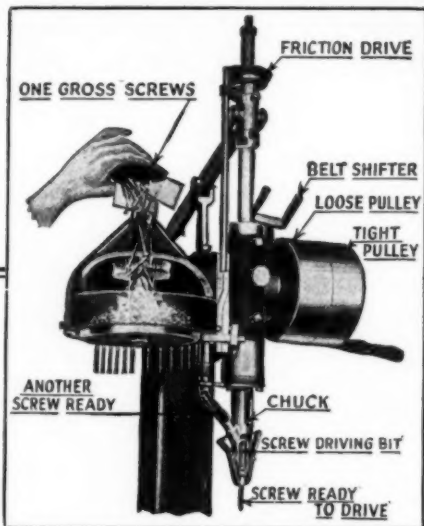
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	36" x 48" Bridgeport Extension, 1 swivel head.....	325.
	51" Baush, 2 heads.....	550.
LATHES:	16" x 6' Blaisdell.....	\$125.
	21" x 12' Johnson, hollow spindle, taper attach.....	200.
	24" x 12' Schumacher-Boye.....	475.
	24" x 14' Rahn-Mayer-Carpenter.....	650.
	24" x 16½' Johnson, solid spindle.....	275.
	26" x 10½' Walcott Hvy. Duty Q.C.G., 3, ea.....	650.
	27" x 12' Pittsburgh.....	550.
	24" x 6' Gisholt Turret, 6½" hol. spdl.....	800.
	3" x 36" Jones & Lamson Flat Turret.....	800.
	2¼" x 24" Jones & Lamson Flat Turret.....	650.
MILLING MCHE.:	No. 3 Cincinnati Plain, table 12" x 31 11", as is.....	\$250.
PRESSES:	Double Cam Action, 4" stroke.....	\$100.
	Double Acting Drawing, 3¼" stroke.....	125.
SHEARS:	Waterbury-Farrell Rotary Shear, about 16 ga.....	\$ 40.
	Doelger-Kirsten High Knife Alligator, 3¾" cap.....	1250.
	Canton No. 5 High Knife Alligator, 3" cap.....	1250.
HAMMERS:	25 lb. Bradley Cushioned Helve.....	\$125.
	40 lb. Bradley Cushioned Helve.....	150.
	800 lb. Bement Single Frame Steam Forging.....	475.
	2000 lb. Bement Steam Drop.....	475.
SHAPERS:	20" Gould & Eberhardt.....	\$375.
	20" Steptoe.....	325.
	16" Springfield.....	225.
	14" Gould & Eberhardt.....	175.
MISCELLANEOUS:	Belt Lacer, No. 3 Clipper, 6" cap., fine condition.....	\$ 10.
	Chain, 2 Sets Best Iron Hand Made Double Sling Chains, each leg 12'. Good as new.	
	Each set.....	25.
	Drills, 129 Twist, from ½" dia. to 1½" dia., high speed and carbon, 9 drill sockets, all taper shank except about 20 for drill chuck straight shank. Lot.....	15.
	Pipe Folder, 32" hand power for 24 gauge.....	20.
	Pipe Machine, Eaton-Cole-Burnham 1" to 4".....	225.
	Pipe Machine, Eaton-Cole-Burnham 2½ to 8".....	450.
	Salamander for coke heating, inside dimensions 22" x 22" x 24", 38" high. Good as new.....	15.
	Saw, Glem Cold, 22" dia., cap. 6" round.....	100.
	Slotter, 10" Bruckton.....	150.
	Steel, Rex AA High Speed Tool Steel for Armstrong Tools, new, as listed: 4¼-lbs., ½" square, 4" long. 3¾-lbs., 5/16" square, 2½" long, per lb.....	75 cts.
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THE MAGAZINE FEED does all the handling of screws. All the operator has to do is to pour a gross or more of screws into the hopper, handle work with both hands, and press a foot lever. **RESULT:**—a boy or girl easily drives 800 to 1,200 screws an hour and an experienced operator up to 2,000.

There's a "Reynolds" for your work. Tell us, please, its dimensions over all, with length and gauge of screws used, and let us place our proposition before you.

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Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Automatics

National Acme Company, Cleveland, O.
New Britain Machine Co., New Britain, Conn.

Balancing Ways

Anderson Bros. Mfg. Co., Rockford, Ill.
Bowsher Co., N. P., South Bend, Ind.

Balls, Bearing and Burnishing

Abbott Ball Co., Hartford, Conn.

Band Saw Machines, for Metal

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.

Barrels, Tumbling

Abbott Ball Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago

Belt Shifters

Reisor Mfg. Co., Mercer, Pa.

Bench Legs, Steel

New Britain Mch. Co., New Britain, Conn.

Bending Machines, Hand and Power

Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Leuthwaite Mch. Co., T. H. 417 E. 31st, N. Y.
Lourie Hydraulic Co., Springfield, Ill.
Pedrick Tool & Machine Co., Philadelphia

Bending Rolls

Hendley & Whittemore Co., Beloit, Wis.

Bolt and Nut Machinery

Economy Engineering Co., Willoughby, O.
Foote-Burt Co., Cleveland, O.

Boring Bars

Pedrick Tool & Machine Co., Philadelphia

Boring Bars, Cylinder

Pedrick Tool & Machine Co., Philadelphia

Boring, Drilling & Milling Machines

Landis Tool Co., Waynesboro, Pa.

Boring Machines, Horizontal

Avay Drilling Machine Co., Cincinnati
Pedrick Tool & Machine Co., Philadelphia

Boring Tools

Maxwell Products Co., Cleveland, Ohio.
Ribbe & Grey, La Porte, Ind.

Boring and Turning Machines, Vertical

Cincinnati Planer Co., Cincinnati, Ohio

Bulldozers, Hydraulic

Lourie Hydraulic Co., Springfield, Ill.

Burnishing Equipment, Ball

Abbott Ball Co., Elmwood, Conn.

Case-Hardening Compound

Kassett Company, 2 & 4 Stone St., New York

Chucking Machines

National Acme Company, Cleveland, O.
New Britain Mch. Co., New Britain, Conn.
Springfield Machine Tool Co., Springfield, O.

Chucks, Collet

Ames Co., B. C., Waltham, Mass.
Hardinge Brothers, Inc., 1770 Berntson Ave., Chicago

Chucks, Drill

Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Jacobs Mfg. Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 13th, Chicago
Titan Tool Co., Erie, Pa.

Chucks, Drill and Tap

Scully-Jones & Co., 2012 W. 13th, Chicago

Chucks, Keyway Cutting

Scully-Jones & Co., Ry. Exch. Bldg., Chicago

Chucks, Magnetic

J. & H. Electric Co., Providence, R. I.

Clamps, Die

Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Clutches, Friction

Conway Clutch Co., Cincinnati, O.
Edgemont Machine Co., Dayton, O.

Cold Saws

Burke Machine Tool Co., Conneaut, Ohio

Collets

Ames Co., B. C., Waltham, Mass.
Hardinge Brothers, Inc., 1770 Berntson Ave., Chicago

Comparators

Active Machine & Tool Co., Cleveland, O.

Contract Work Wanted

Burke Machine Tool Co., Conneaut, O.

Counterbores and Spot Facers

Glenzer Co., J. C., Detroit, Mich.

Couplings, Friction Clutch

Conway Clutch Co., Cincinnati, O.

Cranes, Portable

Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Canton Foundry & Mch. Co., Canton, Ohio

Crank Pin Turning Machine

Pedrick Tool & Machine Co., Philadelphia

Cutters, Keyseating

Davis Keyseater Co., Rochester, N. Y.
Scully-Jones & Co., 2012 W. 13th, Chicago

Cutters, Milling

Genesee Mfg. Co., Rochester, N. Y.

Cylinder Boring Machines, Portable

Pedrick Tool & Machine Co., Philadelphia

Demagnetizers

J. & H. Electric Co., Providence, R. I.

Dial Indicators

Federal Products Corp'n, Providence, R. I.

Die Heads, Threading, Self Opening

National Acme Company, Cleveland, O.

Die Sets

Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Drill Racks

Peeries Machine Co., Racine, Wis.

Drilling Machine Heads, Multiple

Gateman Mfg. Co., W., Manitowoc, Wis.
United States Drill Head Co., Cincinnati

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Drilling Machines, Bench

Ames Co., B. C., Waltham, Mass.
Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Conneaut, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Gaterman Mfg. Co., W., Manitowoc, Wis.
Sigourney Tool Co., Hartford, Conn.
Winterhoff Tool & Machine Co., Elkhart, Ind.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Horizontal

Gaterman Mfg. Co., W., Manitowoc, Wis.

Drilling Machines, Multiple Spindle

Avey Drilling Machine Co., Cincinnati
Foots-Burt Co., Cleveland, O.
Fosdick Machine Tool Co., Cincinnati, O.
Gaterman Mfg. Co., W., Manitowoc, Wis.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Portable Electric

Cincinnati Electrical Tool Co., Cincinnati, O.
Independent Pneumatic Tool Co., 809 W.
Jackson Blvd., Chicago
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 5001 N. Lincoln St., Chicago
Winterhoff Tool & Machine Co., Elkhart, Ind.
Wisconsin Electric Co., Racine, Wis.

Drilling Machines, Post

Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Drilling Machines, Radial

Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Fosdick Machine Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Sensitive

Avey Drilling Machine Co., Cincinnati
Burke Machine Tool Co., Conneaut, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Foots-Burt Co., Cleveland, O.
Fosdick Machine Tool Co., Cincinnati, O.
Gaterman Mfg. Co., W., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.
U. S. Machine Tool Co., Cincinnati, O.
Wisconsin Electric Co., Racine, Wis.

Drilling Machines, Vertical

Avey Drilling Machine Co., Cincinnati
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Foots-Burt Co., Cleveland, O.
Fosdick Machine Tool Co., Cincinnati, O.
Gaterman Mfg. Co., W., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

Drills, Twist

Cleveland Twist Drill Co., Cleveland, O.

Dust Handling Equipment

Knickerbocker Co., Jackson, Mich.

Emery Wheel Dressers and Cutters

Precision Truing Machine & Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.
Western Tool & Mfg. Co., Springfield, O.

Feeders, Oil and Soda Water

New Britain Machine Co., New Britain, Conn.

Filing Machines, Die

Ames Co., B. C., Waltham, Mass.

Filing Room Equipment

Wardwell Mfg. Co., Cleveland, O.

Flexible Shafts

Strand Co., N. A., 5001 N. Lincoln St., Chicago

Forges

Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Forgings, Hollow Bored

American Hollow Boring Co., Erie, Pa.

Furniture, Machine Shop

New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

Gauges, Dial

Ames Co., B. C., Waltham, Mass.
Federal Products Corp'n, Providence, R. I.

Gauges, Piston and Piston Ring

Federal Products Corp'n, Providence, R. I.

Gauges, Thread

Federal Products Corp'n, Providence, R. I.

Gears

Hoston Gear Works Sales Company, Norfolk
Downs, Mass.

Grinding Machines, Belt

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
Peerless Surfacing Machine Co., Troy, N. Y.

Grinding Machines, Bench

Bodine Electric Co., 2256 W. Ohio St., Chicago
Gallmeyer & Livingston Co., Grand Rapids,
Mich.

Grinding Machines, Cutter, Reamer and Tool

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
Jarecki Mcbe. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Cylindrical

Jarecki Mcbe. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Die

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
Jarecki Mcbe. & T. Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Disc

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
Porter Cable Machine Co., Syracuse, N. Y.

Grinding Machines, Drill

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
La Salle Tool Co., La Salle, Ill.

Grinding Machines, Face

Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Internal

Landis Tool Co., Waynesboro, Pa.
Taylor & Fenn Co., Hartford, Conn.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Portable Electric

Bodine Electric Co., 2256 W. Ohio St., Chicago
Cincinnati Electrical Tool Co., Cincinnati, O.
Independent Pneumatic Tool Co., 809 W.
Jackson Blvd., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.
Service Tool, Die & Mfg. Co., 2256 Walnut
Street, Chicago
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 5001 N. Lincoln St., Chicago
Wisconsin Electric Co., Racine, Wis.

Grinding Machines, Snagging

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
Jarecki Mcbe. & T. Co., Grand Rapids, Mich.

Grinding Machines, Surface

Gallmeyer & Livingston Co., Grand Rapids,
Mich.
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Thompson Grinder Co., Springfield, Ohio

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Racks, Bar Stock
New Britain Machine Co., New Britain, Conn.
Yeh Supply Co., Wm. S., Canton, O.

Reamers
Cleveland Twist Drill Co., Cleveland, O.

Reamers, Adjustable
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Red Cutters
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Bench Machine Tool Co., Philadelphia, Pa.
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Saw Sharpening Machines
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Allegheny Gear Co., Pittsburgh, Pa.
Baker, J. C., Columbus, O.
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Bennett Mch. Co., 50 Church St., New York
Hotwink Brothers, New Haven, Conn.
Brown Machinery Co., St. Louis, Mo.
Brownell Machinery Co., Providence, R. I.
Cincinnati Lathe & Tool Co., Cincinnati, O.
Cincinnati Machinery & Supply Co., Cincinnati, O.

Clark Machinery Co., Cleveland, O.
Clinton Mch. Co., 128 S. Clinton, Chicago
Donahue Steel Products Co., 204 N. Jefferson St., Chicago

Eastern Machinery Co., Cincinnati, O.
Empire Machinery Exchange Company, Inc., Cleveland, Ohio

Enley Machinery Co., E. L., 555 Washington Blvd., Chicago

Fittsimmons-Cole Mch. Co., Pittsburgh, Pa.
Foster Machinery Co., Cleveland, O.

Haetten & Co., J. E., Inc., 50 Church St., New York
Harris Bros. Co., 35th & Iron, Chicago

Hill, Clarke & Co., 649 W. Washington Blvd., Chicago
Hill, Clarke & Co., Inc., Boston, Mass.

Hyman & Sons, Joseph, Philadelphia
Industrial Plants Corporation, 25 Church St., New York

Johnson & Sons Machinery Co., Wm. C., St. Louis, Mo.

Jones Machine Tool Co., Cincinnati, O.
Kemp Machinery Co., Baltimore, Md.
Kinsey Co., E. A., Cincinnati, O.

Little Co., W. F., Cleveland
Lucas & Son, J. L., Inc., Bridgeport, Conn.
McCabe Lathe & Machinery Corp., J. J., 149 Broadway, New York
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Molitor Machy. Co., Chas., 118 S. Clinton St., Chicago
Monarch Machinery Co., Philadelphia, Pa.
Morey and Co., Inc., 408 Broome St., N. Y.
Morris Machine Tool Co., Cincinnati, O.
Motch & Merryweather Machinery Company, Cleveland, O.
Niles Tool Works Co., Hamilton, O.
Norton-Broadway Mch. Co., Cincinnati, O.
O'Brien Machinery Co., Philadelphia
Osborne & Sexton Machy. Co., Columbus, O.
Oviatt & Co., D. C., Cleveland, O.
Peninsular Machinery Co., Detroit, Mich.
Reeve-Fritts Co., 37 S. Desplaines, Chicago
Reliance Mch. Sales Co., Pittsburgh, Pa.
Rentschler & Co., J. P., 6722 N. Maplewood Ave., Chicago
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Simmons Machine Tool Corp., Albany, N. Y.
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Strong, Carlisle & Hammond Co., Cleveland
Syracuse Supply Co., Syracuse, N. Y.
Taylor-Hall Welding Corp., Worcester, Mass.
Tubor, Velick & Co., Inc., Lake & Desplaines Sts., Chicago
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White Machy. Co., A. D., 108 N. Jefferson St., Chicago
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Shafts, Flexible

Stew Flexible Shaft Co., Philadelphia, Pa.

Shafts, Steel

American Hollow Boring Co., Erie, Pa.

Shaping Machines

Osborne & Sexton Machy. Co., Columbus, O.
Rhodes Mfg. Co., Hartford, Conn.
Smith & Mills Co., Cincinnati
Springfield Machine Tool Co., Springfield, O.

Shears, Hand

Armstrong-Bium Mfg. Co., 341 N. Francisco Ave., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Machine Co., T. H., 417 E. 31st St., New York
Whitney Metal Tool Co., Rockford, Ill.

Shears, Power

Hendley & Whittemore Co., Beloit, Wis.

Slotting Machines

Rhodes Mfg. Co., Hartford, Conn.

Spacing Washers

Detroit Stamping Co., Detroit, Mich.

Stools and Chairs, Factory

Chicago Wire Chair Co., 619 N. La Salle St., Chicago

Straightening Machines

Springfield Machine Tool Co., Springfield, O.
Towley Mfg. Co., John T., Cincinnati
Whitney Metal Tool Co., Rockford, Ill.

Tap Extractors

Walton Co., Hartford, Conn.

Tapping Machines and Attachments

Alto Mfg. Co., 1647 Wolfram St., Chicago
Avey Drilling Machine Co., Cincinnati
Bench Machine Tool Co., Philadelphia, Pa.
Burke Machine Tool Co., Conneaut, Ohio
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.
Gateman Mfg. Co., W., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Whitney Metal Tool Co., Rockford, Ill.

Taps, Threading, Collapsing

Gateman Mfg. Co., W., Manitowoc, Wis.
National Acme Company, Cleveland, O.

Thread Dies

Colven, J. M., Yonkers, N. Y.

Thread Milling Attachments

Glaco Machine Tool Co., Cincinnati, O.

Threading Tools

Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago
Hart Mfg. Co., Cleveland, O.

Tool Holders

Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago
Western Tool & Mfg. Co., Springfield, O.

Tool Racks

Chicago Wire Chair Co., 619 N. La Salle St., Chicago

Tools, Boring

Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago

Tools, Lathe and Planer

Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago

Tools, Machinists'

Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago

Tools, Spot Facing

Genesee Mfg. Co., Rochester, N. Y.

Travellers, I-Beam

Ford Chain Block Co., Philadelphia, Pa.

Trucks, Machine Shop

New Britain Machine Co., New Britain, Conn.
Towley Mfg. Co., John T., Cincinnati

Turntables

Canton Foundry & Machine Co., Canton, O.

Universal Joints

American Tool Works, Inc., Hartford, Conn.
Borgeson Mfg. Co., Inc., Torrington, Conn.
Boston Gear Works Sales Company, Norfolk Downs, Mass.

Valve Grinders

Independent Pneumatic Tool Co., 800 W. Jackson Blvd., Chicago

Valves

Powell Co., Wm., Cincinnati

Vises, Drilling Machine

Armstrong-Bium Mfg. Co., 341 N. Francisco Ave., Chicago
Armstrong Bros. Tool Co., 308 N. Francisco Ave., Chicago
Germanow-Simon Mch. Co., Rochester, N. Y.

Vises, Machinists'

New Britain Machine Co., New Britain, Conn.
Western Tool & Mfg. Co., Springfield, O.

Vises, Milling Machine

Germanow-Simon Mch. Co., Rochester, N. Y.

Wood Working Machinery

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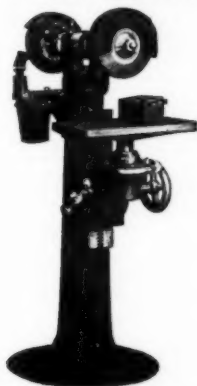
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La Salle Grinders

For Precision and Production



No. 1 Plain and Surface Grinder (Micrometer Adjustment)

Grinding wheels.....	8"x1"
Between wheels.....	15"
Height to spindle center.....	40"
Table surface.....	8"x14"

Has vertical travel of 12" on guides, $\frac{3}{4}$ " by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.

Spindle speed.....	2450 r.p.m.
Countershaft speed.....	800 r.p.m.
Floor space.....	18"x24"
Net weight.....	300 lbs.
PRICE.....	\$115.00

Nothing better within its capacity than the La Salle No. 1 for general use in the tool room or machine shop. If you need a larger, heavier Plain and Surface Grinder, write us for description of the La Salle No. 3, which sells for \$365.00.

The La Salle No. 1 has every provision for accuracy and ease of handling. The adjustments are simple, easy to make, and positive. The micrometer adjustment on the horizontal hand-wheel is graduated in 1000ths of an inch, with ample room between division marks for finer adjustments.

La Salle Grinders include our Nos. 1 and 3 Plain and Surface Grinders; No. 2 Automatic Surface Grinder at \$550.00, and American Wet and Dry Drill Grinders in various sizes—prices on application—each a real leader in its class.

You can't go wrong if you let us take care of your grinding needs. Will you tell us what they are?

LaSalle Tool Company

LaSalle, Illinois, U. S. A.

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Precision Truing Tools

will cut down your cost of truing grinding wheels.

The wheel is trued more quickly—the wheel pores are opened up better, hence will grind more pieces before requiring truing again.

THE SAVING IS ALL PROFIT TO YOU

WHEELS

Our truing wheels are especially made for truing and are superior for this work.

We also make small grinding wheels, 6-inch diameter and less.

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CINCINNATI, OHIO

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Pressed Steel

Bench Legs



*Bulletin of complete
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Equipmen. Yours
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New Britain Pressed Steel Bench Legs are made in three weights; i. e. — Light Duty, General Purpose and Heavy Duty, which cover every bench requirement.

The New Britain Machine Co.

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